

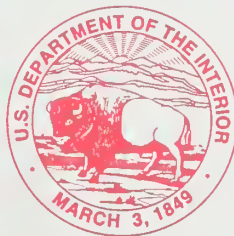


## Technical Note 399

# Analyses of Natural Gases, 1994-95

By J.E. Hamak and D.L. Driskill  
December 1996

**U.S. Department of the Interior**  
**Bureau of Land Management**



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Technical Note 399

## **ANALYSES OF NATURAL GASES, 1994-95**

By J.E. Hamak and D.L. Driskill

December 1996

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# ANALYSES OF NATURAL GASES, 1994-95

J.E. Hamak<sup>1</sup> and D.L. Driskill<sup>2</sup>

## ABSTRACT

This publication contains analyses and related source data for 160 natural gas samples from 16 states. Of the total samples, 149 were collected during calendar years 1994-95. The remainder were collected earlier, but releases granting permission to publish were not received until 1995. None of the analyses have been previously published in annual reports. All samples were obtained and analyzed as part of U.S. Department of the Interior, Bureau of Land Management investigations of the occurrences of helium in natural gases from countries with free-market economies. This survey has been conducted since 1917. The analyses published herein were made by mass spectrometer and chromatograph.

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## INTRODUCTION

This Bureau of Land Management publication contains analyses and related source data for 160 natural gas samples from 16 states. None of the analyses have been previously published in annual reports. All samples were obtained and analyzed as part of the Bureau of Land Management's investigations of the occurrences of helium in natural gases from countries with free-market economies. This survey has been conducted since 1917. The analyses published herein were made by mass spectrometer and chromatograph.

The results of these investigations are published annually to make the information available to the petroleum industry and the general public. Forty publications have presented the results of 15,731 gas analyses made through 1993. The first three bulletins (1-3)<sup>3</sup> contain analyses and related source data on 5,218 gas samples collected from 1917 through 1960; these bulletins have been supplemented annually by information circulars (4-17, 19-24, 26-30, 32-36, 38-40) containing 10,513 analyses of samples collected since 1960.

In 1976, a compilation of the analyses made prior to 1975 was prepared by the U.S. Bureau of Mines and published by the National Technical Information Service of the U.S. Department of Commerce (18). The 1976 compilation contains 10,562 analyses of gas samples from gas and oil wells and natural gas pipelines in 37 states and 23 foreign countries.

Three other compilations of analyses have been published (25, 31, 37) by the U.S. Bureau of Mines. The first of these was published in 1982 and contained analyses made prior to 1981. The 1982 publication contains 12,554 analyses of gas samples from gas and oil wells and natural gas pipelines in 39 states and 24 foreign countries and includes the analyses from the 1976 publication (25). The second of these compilations was published in 1987 and contains 14,242 analyses made prior to 1986. The samples were taken from wells or pipelines in 40 states and 24 foreign countries (31). In 1991, a compilation was completed as a supplement to the 1987 publication and contains all analyses published from 1986 through 1990. The 1991 publication contains 920 samples from gas and oil wells and pipelines in 26 states and 2 foreign countries (37).

In addition to being in the publications, all analyses and related information published through 1995 are available on a magnetic tape file and 3.5-inch diskettes. The tape and diskettes are available from the National Technical Information Service, Springfield, VA 22161, telephone No. 1-800-553-NTIS; orders should refer to Bureau of Land Management tape PB 94-504412. There are 10 diskettes available; diskette PB 93-504795 contains all available analyses, seven other diskettes contain analyses from various regions of the United States, one diskette contains foreign analyses, and one diskette contains historical analyses of samples collected prior to 1951.

The helium survey program is conducted by soliciting natural gas samples throughout the United States and other countries with free-market economies. Without the assistance of the petroleum industry, State and Federal agencies, and many individuals engaged in oil and gas exploration and production, the helium survey in its present scope would not be possible.

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<sup>3</sup>Italicized numbers in parentheses refer to items in the list of previous publications at the end of this report.



## GEOLOGIC PROVINCES OF THE UNITED STATES

The tables include geologic province codes so each sample source can be located within a specific geologic province as defined by the Committee on Statistics of Drilling of the American Association of Petroleum Geologists.<sup>4</sup> These provinces, which are given in the following list and shown in figure 1, are delineated by political boundaries for convenience and for accommodation of data processing equipment. Not all of the provinces shown are gas-producing areas, so many of the codes are not used in this publication. Since State or Federal ownership is not always known in offshore areas, only one code is used for each state. Because of the lack of information on the location of wells in Alaska, only one code, 972, is used for all wells.

The following list and figure 1 are taken from the article cited in footnote 4:

Code	Province
100	New England Province
110	Adirondack Uplift
120	Atlantic Coast Basin
130	South Georgia-North Florida Sedimentary Province
140	South Florida Province
150	Piedmont-Blue Ridge Province
160	Appalachian Basin
200	Black Warrior Basin
210	Mid-Gulf Coast Basin
220	Gulf Coast Basin
230	Arkla Basin
240	Desha Basin
250	Upper Mississippi Embayment
260	East Texas Basin
300	Cincinnati Arch
305	Michigan Basin
310	Wisconsin Arch
315	Illinois Basin
320	Sioux Uplift
325	Iowa Shelf
330	Lincoln Anticline
335	Forest City Basin
340	Ozark Uplift
345	Arkoma Basin
350	South Oklahoma Folded Belt Province
355	Chautauqua Platform
360	Anadarko Basin
365	Cherokee Basin
370	Nemaha Anticline

<sup>4</sup>Meyer, R.F. Geologic Provinces Code Map for Computer Use. AAPG Bull., v. 54, No. 7, July 1970, pp. 1301-1305.

Code	Province
375	Sedgwick Basin
380	Salina Basin
385	Central Kansas Uplift
390	Chadron Arch
395	Williston Basin
400	Ouachita Tectonic Belt Province
405	Kerr Basin
410	Llano Uplift
415	Strawn Basin
420	Fort Worth Syncline
425	Bend Arch
430	Permian Basin
435	Palo Duro Basin
440	Amarillo Arch
445	Sierra Grande Uplift
450	Las Animas Arch
455	Las Vegas-Raton Basin
460	Estancia Basin
465	Orogrande Basin
470	Pedregosa Basin
475	Basin-and-Range Province
500	Sweetgrass Arch
505	Montana Folded Belt Province
510	Central Montana Uplift
515	Powder River Basin
520	Big Horn Basin
525	Yellowstone Province
530	Wind River Basin
535	Green River Basin
540	Denver Basin
545	North Park Basin
550	South Park Basin
555	Eagle Basin
560	San Luis Basin
565	San Juan Mountain Province
570	Uinta Uplift
575	Uinta Basin
580	San Juan Basin
585	Paradox Basin
590	Black Mesa Basin
595	Piceance Basin
600	Northern Cascade Range-Okanagan Province
605	Eastern Columbia Basin
610	Idaho Mountains Province

Code	Province
615	Snake River Basin
620	Southern Oregon
625	Great Basin Province
630	Wasatch Uplift
635	Plateau Sedimentary Province
640	Mojave Basin
645	Salton Basin
650	Sierra Nevada Province
700	Bellingham Basin
705	Puget Sound Province
710	Western Columbia Basin
715	Klamath Mountains Province
720	Eel River Basin
725	Northern Coast Range Province
730	Sacramento Basin
735	Santa Cruz Basin
740	Coastal Basins
745	San Joaquin Basin
750	Santa Maria Basin
755	Ventura Basin
760	Los Angeles Basin
765	Capistrano Basin
800	Heceta Island Area
805	Keku Islands Area
810	Gulf of Alaska Basin
815	Copper River Basin
820	Cook Inlet Basin
830	Kandik Province
835	Kobuk Province
840	Koyukuk Province
845	Bristol Bay Basin
850	Bethel Basin
855	Norton Basin
860	Selawik Basin
863	Yukon Flats Basin
865	Lower Tanana Basin
867	Middle Tanana Basin
870	Upper Tanana Basin
873	Galena Basin
875	Innoko Basin
877	Minchumina Basin
880	Holitna Basin
885	Arctic Foothills Province
890	Arctic Slope Basin

Code	Province
900	Maine Atlantic offshore--general
901	Maine Atlantic offshore--State
902	Maine Atlantic offshore--Federal
903	New Hampshire Atlantic offshore--general
904	New Hampshire Atlantic offshore--State
905	New Hampshire Atlantic offshore--Federal
906	Massachusetts Atlantic offshore--general
907	Massachusetts Atlantic offshore--State
908	Massachusetts Atlantic offshore--Federal
909	Rhode Island Atlantic offshore--general
910	Rhode Island Atlantic offshore--State
911	Rhode Island Atlantic offshore--Federal
912	Connecticut Atlantic offshore--general
913	Connecticut Atlantic offshore--State
914	Connecticut Atlantic offshore--Federal
915	New York Atlantic offshore--general
916	New York Atlantic offshore--State
917	New York Atlantic offshore--Federal
918	New Jersey Atlantic offshore--general
919	New Jersey Atlantic offshore--State
920	New Jersey Atlantic offshore--Federal
921	Delaware Atlantic offshore--general
922	Delaware Atlantic offshore--State
923	Delaware Atlantic offshore--Federal
924	Maryland Atlantic offshore--general
925	Maryland Atlantic offshore--State
926	Maryland Atlantic offshore--Federal
927	Virginia Atlantic offshore--general
928	Virginia Atlantic offshore--State
929	Virginia Atlantic offshore--Federal
930	North Carolina Atlantic offshore--general
931	North Carolina Atlantic offshore--State
932	North Carolina Atlantic offshore--Federal
933	South Carolina Atlantic offshore--general
934	South Carolina Atlantic offshore--State
935	South Carolina Atlantic offshore--Federal
936	Georgia Atlantic offshore--general
937	Georgia Atlantic offshore--State
938	Georgia Atlantic offshore--Federal
939	Florida Atlantic offshore--general
940	Florida Atlantic offshore--State
941	Florida Atlantic offshore--Federal
942	Florida Gulf of Mexico offshore--general
943	Florida Gulf of Mexico offshore--State

Code	Province
944	Florida Gulf of Mexico offshore--Federal
945	Alabama Gulf of Mexico offshore--general
946	Alabama Gulf of Mexico offshore--State
947	Alabama Gulf of Mexico offshore--Federal
948	Mississippi Gulf of Mexico offshore--general
949	Mississippi Gulf of Mexico offshore--State
950	Mississippi Gulf of Mexico offshore--Federal
951	Louisiana Gulf of Mexico offshore--general
952	Louisiana Gulf of Mexico offshore--State
953	Louisiana Gulf of Mexico offshore--Federal
954	Texas Gulf of Mexico offshore--general
955	Texas Gulf of Mexico offshore--State
956	Texas Gulf of Mexico offshore--Federal
957	California Pacific offshore--general
958	California Pacific offshore--State
959	California Pacific offshore--Federal
960	Oregon Pacific offshore--general
961	Oregon Pacific offshore--State
962	Oregon Pacific offshore--Federal
963	Washington Pacific offshore--general
964	Washington Pacific offshore--State
965	Washington Pacific offshore--Federal
972	Alaska Arctic offshore--general
973	Alaska Arctic offshore--State
974	Alaska Arctic offshore--Federal
975	Alaska Bering Sea offshore--general
976	Alaska Bering Sea offshore--State
977	Alaska Bering Sea offshore--Federal
978	Alaska Pacific offshore--general
979	Alaska Pacific offshore--State
980	Alaska Pacific offshore--Federal
987	Minnesota Lake Superior offshore
988	Wisconsin Lake Superior offshore
989	Michigan Lake Superior offshore
990	Indiana Lake Michigan offshore
991	Illinois Lake Michigan offshore
992	Wisconsin Lake Michigan offshore
993	Michigan Lake Michigan offshore
994	Michigan Lake Huron offshore
995	Michigan Lake Erie offshore
996	Ohio Lake Erie offshore
997	Pennsylvania Lake Erie offshore
998	New York Lake Erie offshore
999	New York Lake Ontario offshore

## TABLES

The following tables include the results of analyses and related source data from the gas samples, which are divided into two groups as follows:

Table 1. - Samples from gas and oil wells in the United States

Table 2. - Samples from pipelines in the United States

The following list indicates the sources of the samples listed in the tables:

Source	Number of samples	Tables	Source	Number of samples	Tables
Alaska	3	1,2	New Mexico	6	1
Arizona	2	1	Ohio	1	1
Arkansas	2	1	Oklahoma	21	1
Colorado	7	1	Oregon	1	1
Kansas	12	1	South Dakota	1	1
Louisiana	10	1	Texas	79	1
Mississippi	4	1	Utah	3	1
Montana	1	1	Wyoming	7	1

All components of the analyses in the tables are reported to the nearest 0.1 percent (pct), except helium, which is reported to the nearest 0.01 pct. The word "trace" is used to denote quantities of helium of less than 0.005 pct and quantities of other components of less than 0.05 pct.



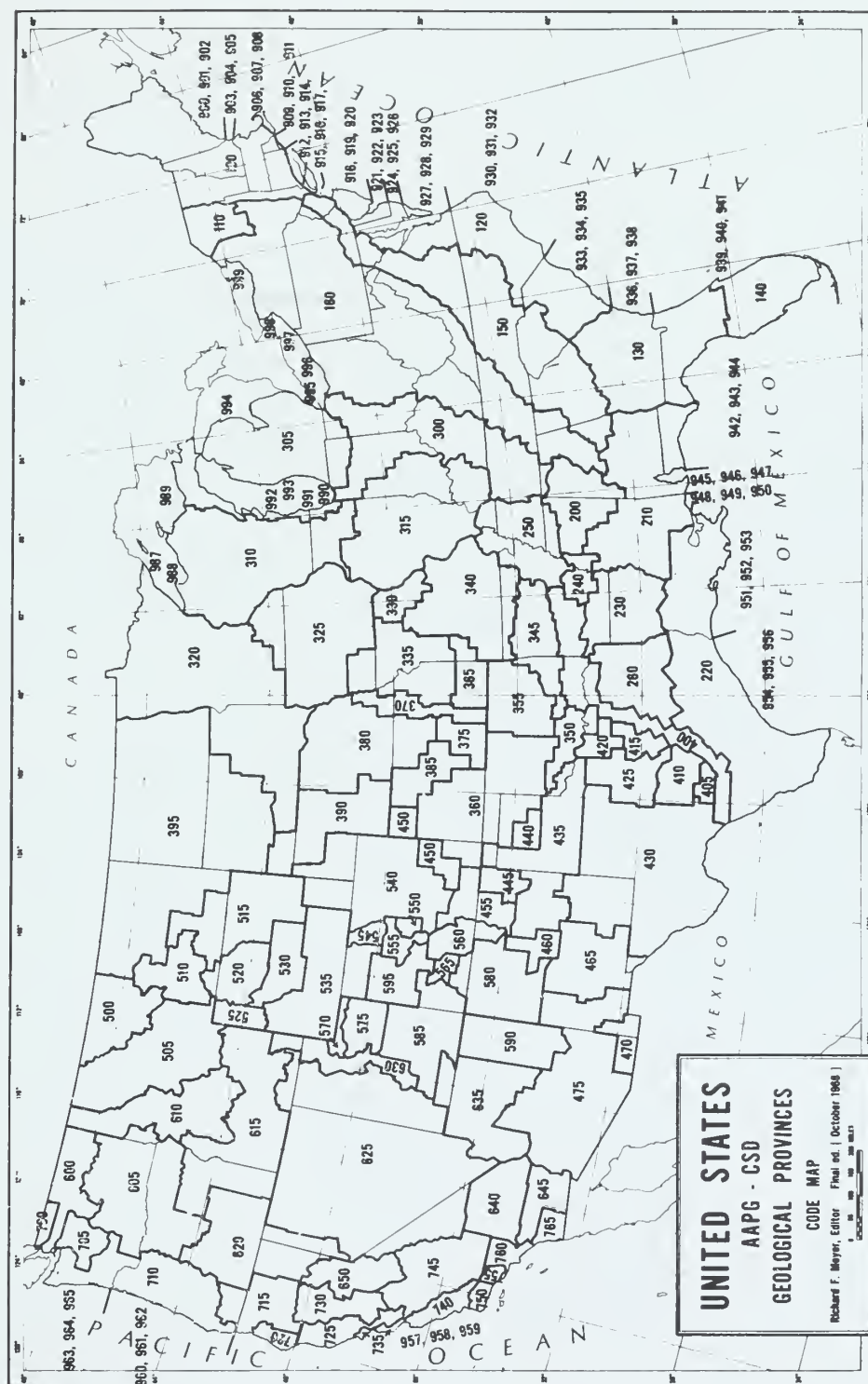


FIGURE 1. - Geologic provinces of the United States.





## TABLES

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

		INDEX SAMPLE 19470	INDEX SAMPLE 19471	INDEX SAMPLE 19709
STATE.....	ALASKA	ALASKA	ARIZONA	
COUNTY.....	KENAI	KENAI	APACHE	
FIELD.....	CANNERY LOOP	MCARTHUR RV-COOK INLET BASIN	BLACK ROCK	
WELL NAME.....	CANNERY LOOP UNIT NO. 1	TRADING BAY UNIT NO. G-18DPN	BLACK ROCK NO. 12	
API.....	501-332-0323	507332016001	02-001-20294	
LOCATION.....	SEC. 7, T5N, R11W	SEC. 28, T9N, R13W	SEC. 7, T40N, R29E	
OWNER.....	UNOCAL CORP.	UNOCAL CORP.	CHUSKA ENERGY CO.	
COMPLETED.....	88/02/00	91/--/00	93/08/17	
SAMPLED.....	92/10/28	92/10/00	94/01/07	
FORMATION.....	PLIO-BELUGA	MIOC-TYONEK	PENN-PARADOX	
GEOLOGIC PROVINCE CODE...	820	820	590	
DEPTH, FEET.....	6500	NOT GIVEN	4620	
WELLHEAD PRESSURE, PSIG...	1400	NOT GIVEN	800	
OPEN FLOW, MCFD.....	8500	NOT GIVEN -	1050	
COMPONENT, MOLE PCT				
METHANE.....	98.1 -----	93.1 -----	82.8 -----	
ETHANE.....	0.1 -----	0.1 -----	5.0 -----	
PROPANE.....	TRACE -----	0.0 -----	2.3 -----	
N-BUTANE.....	0.0 -----	0.0 -----	0.6 -----	
ISOBUTANE.....	0.0 -----	0.0 -----	0.3 -----	
N-PENTANE.....	0.1 -----	0.0 -----	0.1 -----	
ISOPENTANE.....	0.0 -----	0.0 -----	0.1 -----	
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----	
HEXANES PLUS.....	0.0 -----	0.0 -----	0.1 -----	
NITROGEN.....	1.2 -----	6.5 -----	5.2 -----	
OXYGEN.....	0.3 -----	0.0 -----	0.3 -----	
ARGON.....	0.0 -----	0.0 -----	0.1 -----	
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----	
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----	
CARBON DIOXIDE.....	0.2 -----	0.2 -----	2.9 -----	
HELIUM.....	TRACE -----	0.01 -----	0.39 -----	
HEATING VALUE*.....	1001 -----	946 -----	1028 -----	
SPECIFIC GRAVITY.....	0.566	0.584	0.670	

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 4		INDEX 5		INDEX 6	
SAMPLE 19693		SAMPLE 19706		SAMPLE 19798	
STATE.....	ARIZONA	ARKANSAS	ARKANSAS		
COUNTY.....	APACHE	FRANKLIN	SEBASTIAN		
FIELD.....	BOUNDARY BUTTE E	WHITE OAK	WITCHERVILLE		
WELL NAME.....	NAVAJO NO. 1	MAGRUDER NO. 1-16	SHOPPACH NO. 1		
API.....	02-001-05199	03-047-10812	03-131-10565		
LOCATION.....	SEC. 4, T41N, R28E	SEC. 16, T10N, R27W	SEC. 35, T6N, R31W		
OWNER.....	MERRION OIL & GAS CORP.	SEECO, INC.	KLABZUBA OPERATING CO.		
COMPLETED.....	93/02/20	93/10/19	93/07/04		
SAMPLED.....	93/12/00	94/01/05	94/06/25		
FORMATION.....	MISS-LEADVILLE	PENN-HALE M C3	PENN-TURNER, ATOKA L		
GEOLOGIC PROVINCE CODE...	590	345	345		
DEPTH, FEET.....	5570	2955	4986		
WELLHEAD PRESSURE,PSIG...	1245	1080	NOT GIVEN		
OPEN FLOW, MCFD.....	1660	2500	2517		
COMPONENT, MOLE PCT					
METHANE.....	45.9 -----	97.4 -----	97.7 -----		
ETHANE.....	2.7 -----	1.1 -----	1.3 -----		
PROPANE.....	0.8 -----	0.1 -----	0.2 -----		
N-BUTANE.....	0.3 -----	0.0 -----	0.0 -----		
ISOBUTANE.....	0.1 -----	0.0 -----	TRACE -----		
N-PENTANE.....	0.3 -----	0.0 -----	0.0 -----		
ISOPENTANE.....	0.0 -----	0.0 -----	TRACE -----		
CYCLOPENTANE.....	0.1 -----	0.0 -----	0.0 -----		
HEXANES PLUS.....	0.2 -----	0.1 -----	0.0 -----		
NITROGEN.....	33.4 -----	0.8 -----	0.3 -----		
OXYGEN.....	0.1 -----	0.2 -----	0.0 -----		
ARGON.....	0.3 -----	0.0 -----	TRACE -----		
HYDROGEN.....	TRACE -----	TRACE -----	0.0 -----		
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----		
CARBON DIOXIDE.....	11.6 -----	0.3 -----	0.4 -----		
HELIUM.....	4.18 -----	0.05 -----	0.08 -----		
HEATING VALUE*.....	575 -----	1012 -----	1019 -----		
SPECIFIC GRAVITY.....	0.831	0.570	0.568		

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

		INDEX SAMPLE 19733	INDEX SAMPLE 19772	INDEX SAMPLE 19771
STATE.....	COLORADO	COLORADO	COLORADO	
COUNTY.....	MESA	RIO BLANCO	RIO BLANCO	
FIELD.....	ROBERTS CANYON	BANTA RIDGE	BAXTER PASS	
WELL NAME.....	HORSESHOE NO. 2-20	TIAGA MOUNTAIN NO. 13-16	FEDERAL 17-D-23-4-103	
API.....	05-077-08645	05-103-08549	05-103-08260	
LOCATION.....	SEC. 20, T9S, R97W	SEC. 16, T1S, R103W	SEC. 23, T4S, R103W	
OWNER.....	KOCH EXPLORATION CO.	BONNEVILLE FUELS CORP.	BONNEVILLE FUELS CORP.	
COMPLETED.....	93/02/02	93/--/00	93/--/00	
SAMPLED.....	94/02/02	94/05/00	94/05/12	
FORMATION.....	CRET-DAKOTA	CRET-MANCOS	CRET-MANCOS	
GEOLOGIC PROVINCE CODE...	595	595	595	
DEPTH, FEET.....	7427	NOT GIVEN	NOT GIVEN	
WELLHEAD PRESSURE, PSIG...	830	NOT GIVEN	NOT GIVEN	
OPEN FLOW, MCFD.....	1368	NOT GIVEN	NOT GIVEN	
COMPONENT, MOLE PCT				
METHANE.....	92.7 -----	85.8 -----	85.1 -----	
ETHANE.....	0.6 -----	7.3 -----	6.1 -----	
PROPANE.....	0.2 -----	3.5 -----	4.5 -----	
N-BUTANE.....	0.0 -----	0.9 -----	1.3 -----	
ISOBUTANE.....	0.1 -----	0.6 -----	0.7 -----	
N-PENTANE.....	0.0 -----	0.2 -----	0.3 -----	
ISOPENTANE.....	0.0 -----	0.3 -----	0.3 -----	
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.1 -----	
HEXANES PLUS.....	0.0 -----	0.1 -----	0.2 -----	
NITROGEN.....	0.7 -----	1.0 -----	1.2 -----	
OXYGEN.....	0.1 -----	0.2 -----	0.1 -----	
ARGON.....	0.0 -----	0.0 -----	TRACE -----	
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----	
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----	
CARBON DIOXIDE.....	5.5 -----	0.2 -----	0.2 -----	
HELIUM.....	0.07 -----	0.02 -----	0.08 -----	
HEATING VALUE*.....	958 -----	1165 -----	1188 -----	
SPECIFIC GRAVITY.....	0.618	0.666	0.682	

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H<sub>2</sub>S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 10 SAMPLE 19774	INDEX 11 SAMPLE 19884	INDEX 12 SAMPLE 19773
STATE.....	COLORADO	COLORADO	COLORADO
COUNTY.....	RIO BLANCO	RIO BLANCO	RIO BLANCO
FIELD.....	BAITER PASS	DOUGLAS CREEK	DOUGLAS CREEK N.
WELL NAME.....	COLUMBINE SPRING NO. 13-24-4	DOUGLAS CREEK UNIT NO. 61	FEDERAL NO. 21-3-1S-102
API.....	05-103-08715	05-103-9696	05-103-08968
LOCATION.....	SEC. 24, T4S, R104W	SEC. 6, T3S, R101W	SEC. 3, T1S, R102W
OWNER.....	BONNEVILLE FUELS CORP.	CONOCO, INC.	BONNEVILLE FUELS CORP.
COMPLETED.....	--/--/00	94/07/29	93/--/00
SAMPLED.....	94/05/12	95/10/05	94/05/00
FORMATION.....	CRET-DAKOTA	CRET-DAKOTA	CRET-MANCOS B
GEOLOGIC PROVINCE CODE...	595	595	595
DEPTH, FEET.....	NOT GIVEN	4442	NOT GIVEN
WELLHEAD PRESSURE, PSIG...	NOT GIVEN	1280	NOT GIVEN
OPEN FLOW, MCFD.....	NOT GIVEN	630	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE.....	87.0 -----	81.4 -----	87.1 -----
ETHANE.....	6.2 -----	2.1 -----	6.5 -----
PROPANE.....	2.7 -----	0.7 -----	3.3 -----
N-BUTANE.....	0.8 -----	0.3 -----	0.9 -----
ISOBUTANE.....	0.5 -----	0.1 -----	0.6 -----
N-PENTANE.....	0.2 -----	0.1 -----	0.2 -----
ISOPENTANE.....	0.3 -----	0.1 -----	0.3 -----
CYCLOPENTANE.....	0.1 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.1 -----	0.1 -----	0.1 -----
NITROGEN.....	0.8 -----	8.4 -----	0.8 -----
OXYGEN.....	0.1 -----	0.0 -----	0.0 -----
ARGON.....	TRACE	0.1 -----	TRACE
HYDROGEN.....	0.4 -----	0.5 -----	TRACE
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.9 -----	5.9 -----	0.1 -----
HELIUM.....	0.10 -----	0.37 -----	0.09 -----
HEATING VALUE*.....	1133 -----	905 -----	1161 -----
SPECIFIC GRAVITY.....	0.654	0.671	0.659

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 13 SAMPLE 19726	INDEX 14 SAMPLE 19849	INDEX 15 SAMPLE 19708
STATE.....	COLORADO	KANSAS	KANSAS
COUNTY.....	RIO BLANCO	HASKELL	HASKELL
FIELD.....	LOWER HORSE DRAW	HUGOTON	LEMON NE
WELL NAME.....	LOWER HORSE DRAW NO. D-18	DANIELS 1-A	BRENNAN NO. 1-24
API.....		15-081-20862	15-081-20711
LOCATION.....	SEC. 12, T2S, R203W	SEC. 25, T29S, R33W	SEC. 24, T29S, R33W
OWNER.....	CONOCO, INC.	KANSAS NATURAL GAS, INC.	HUGOTON ENERGY CORP.
COMPLETED.....	80/09/28	94/08/30	92/02/15
SAMPLED.....	94/03/02	95/01/09	93/12/31
FORMATION.....	CRET-MANCOS B	PERM-CHASE GROUP	PENN-ATOKA
GEOLOGIC PROVINCE CODE...	595	360	360
DEPTH, FEET.....	NOT GIVEN	2629	5064
WELLHEAD PRESSURE, PSIG...	NOT GIVEN	355	1142
OPEN FLOW, MCFD.....	NOT GIVEN	1299	1348
COMPONENT, MOLE PCT			
METHANE.....	87.1 -----	74.9 -----	78.8 -----
ETHANE.....	6.2 -----	4.1 -----	6.4 -----
PROPANE.....	3.2 -----	2.0 -----	4.1 -----
N-BUTANE.....	1.0 -----	0.4 -----	1.2 -----
ISOBUTANE.....	0.5 -----	0.2 -----	0.3 -----
N-PENTANE.....	0.3 -----	0.1 -----	0.4 -----
ISOPENTANE.....	0.1 -----	0.0 -----	0.2 -----
CYCLOPENTANE.....	0.1 -----	0.0 -----	0.1 -----
HEXANES PLUS.....	0.2 -----	0.1 -----	0.2 -----
NITROGEN.....	1.2 -----	17.7 -----	7.9 -----
OXYGEN.....	0.0 -----	TRACE -----	0.0 -----
ARGON.....	TRACE -----	0.0 -----	0.0 -----
HYDROGEN.....	TRACE -----	TRACE -----	0.0 -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.1 -----	0.1 -----	0.1 -----
HELIUM.....	0.10 -----	0.52 -----	0.22 -----
HEATING VALUE*.....	1155 -----	912 -----	1108 -----
SPECIFIC GRAVITY.....	0.658	0.680	0.701

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE



TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX SAMPLE 16 19799		INDEX SAMPLE 17 19860		INDEX SAMPLE 18 19862
STATE.....	KANSAS		KANSAS		KANSAS
COUNTY.....	KIOWA		MEADE		MEADE
FIELD.....	WILDCAT		RAZORHAWK		RAZORHAWK
WELL NAME.....	LEWIS RALSTIN NO. 1		WILSON NO. 15-1		WEBBER NO. 9-1
API.....	15-097-21352				
LOCATION.....	SEC. 7, T28S, R19W		SEC. 15, T32S, R26W		SEC. 9, T32S, R26W
OWNER.....	WOOLSEY PETROLEUM CORP.		ENRON OIL & GAS CO.		ENRON OIL & GAS CO.
COMPLETED.....	93/06/15		93/01/00		94/01/00
SAMPLED.....	94/07/00		95/04/04		95/04/04
FORMATION.....	MISS---		MISS-CHESTER		MISS---
GEOLOGIC PROVINCE CODE...	360		360		360
DEPTH, FEET.....	4884		5446		5456
WELLHEAD PRESSURE, PSIG...	NOT GIVEN		NOT GIVEN		NOT GIVEN
OPEN FLOW, MCFD.....	1710		1538		2647
COMPONENT, MOLE PCT					
METHANE.....	54.0 -----		86.0 -----		80.2 -----
ETHANE.....	3.7 -----		6.0 -----		6.8 -----
PROPANE.....	0.8 -----		3.2 -----		4.1 -----
N-BUTANE.....	0.4 -----		0.9 -----		1.1 -----
ISOBUTANE.....	0.2 -----		0.4 -----		0.5 -----
N-PENTANE.....	0.1 -----		0.2 -----		0.2 -----
ISOPENTANE.....	0.1 -----		0.1 -----		0.1 -----
CYCLOPENTANE.....	0.0 -----		0.0 -----		0.0 -----
HEXANES PLUS.....	0.1 -----		0.1 -----		0.1 -----
NITROGEN.....	37.3 -----		2.8 -----		6.6 -----
OXYGEN.....	0.0 -----		0.0 -----		0.0 -----
ARGON.....	0.2 -----		TRACE		0.0 -----
HYDROGEN.....	TRACE -----		TRACE -----		TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----		0.0 -----		0.0 -----
CARBON DIOXIDE.....	0.2 -----		0.2 -----		0.2 -----
HELIUM.....	2.96 -----		0.14 -----		0.15 -----
HEATING VALUE*.....	666 -----		1124 -----		1111 -----
SPECIFIC GRAVITY.....	0.741		0.657		0.689

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX SAMPLE 19695	INDEX SAMPLE 19707	INDEX SAMPLE 19830
STATE.....	KANSAS	KANSAS	KANSAS
COUNTY.....	MONTGOMERY	MORTON	MORTON
FIELD.....	NEODESHA	STIRRUP	WILDCAT
WELL NAME.....	LAVELY NO. C-1	MARQUARDT NO. 2-28	PUCKETT NO. 1
API.....	15-125-26878	15-129-21106	15-129-21221
LOCATION.....	SEC. 2, T31S, R16E	SEC. 28, T32S, R40W	SEC. 6, T35S, R41W
OWNER.....	GREAT EASTERN ENERGY & DEV. CO	HUGOTON ENERGY CORP.	H & L OPERATING CO.
COMPLETED.....	90/05/09	91/12/02	93/09/17
SAMPLED.....	93/12/20	93/12/31	94/09/18
FORMATION.....	PENN-WIER	PENN-MORROW U	PENN-MORROW
GEOLOGIC PROVINCE CODE...	365	360	360
DEPTH, FEET.....	994	5250	4746
WELLHEAD PRESSURE, PSIG...	215	1187	1262
OPEN FLOW, MCFD.....	45	11819	10500
COMPONENT, MOLE PCT			
METHANE.....	86.4 -----	80.4 -----	80.1 -----
ETHANE.....	7.1 -----	5.4 -----	6.7 -----
PROPANE.....	2.2 -----	4.2 -----	4.3 -----
N-BUTANE.....	0.5 -----	1.1 -----	1.0 -----
ISOBUTANE.....	0.4 -----	0.4 -----	0.3 -----
N-PENTANE.....	0.2 -----	0.4 -----	0.2 -----
ISOPENTANE.....	0.1 -----	0.1 -----	0.1 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.1 -----	0.2 -----	0.1 -----
NITROGEN.....	0.2 -----	7.3 -----	6.3 -----
OXYGEN.....	0.0 -----	0.1 -----	0.4 -----
ARGON.....	TRACE	0.0 -----	0.0 -----
HYDROGEN.....	TRACE -----	TRACE -----	0.0 -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	2.9 -----	0.2 -----	0.2 -----
HELIUM.....	TRACE	0.20 -----	0.22 -----
HEATING VALUE*.....	1104 -----	1101 -----	1108 -----
SPECIFIC GRAVITY.....	0.661	0.692	0.690

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX SAMPLE	22 19844	INDEX SAMPLE	23 19807	INDEX SAMPLE	24 19782
STATE.....	KANSAS		KANSAS		KANSAS	
COUNTY.....	SEWARD		STANTON		STEVENS	
FIELD.....	HUGOTON		SAND ARROYO		PERRILL SE	
WELL NAME.....	FEDERAL LAND BANK NO. 2		GRACE KILGORE NO. 1		MLP GERROND A NO. 1	
API.....	15-175-21325		15-187-20711		15-189-10099	
LOCATION.....	SEC. 26, T31S, R34W		SEC. 20, T29S, R39W		SEC. 20, T31S, R37W	
OWNER.....	OXY U.S.A., INC.		AMOCO PRODUCTION CO.		OXY U.S.A., INC.	
COMPLETED.....	94/01/01		94/02/25		91/02/27	
SAMPLED.....	94/12/02		94/07/22		94/06/08	
FORMATION.....	PERM-CHASE GROUP		PENN-MORROW		PENN-MORROW	
GEOLOGIC PROVINCE CODE...	360		360		360	
DEPTH, FEET.....	2550		5468		5378	
WELLHEAD PRESSURE, PSIG...	221		831		1305	
OPEN FLOW, MCFD.....	588		3894		41706	
COMPONENT, MOLE PCT						
METHANE.....	73.7	-----	79.3	-----	71.1	-----
ETHANE.....	5.4		4.3		5.1	
PROPANE.....	2.9	-----	2.1	-----	5.1	-----
N-BUTANE.....	0.8		0.6		0.0	
ISOBUTANE.....	0.3	-----	0.2	-----	1.7	-----
N-PENTANE.....	0.2		0.2		0.5	
ISOPENTANE.....	0.1	-----	0.1	-----	0.0	-----
CYCLOPENTANE.....	0.0		0.0		0.0	
HEXANES PLUS.....	0.1	-----	0.1	-----	0.1	-----
NITROGEN.....	15.8		11.8		15.7	
OXYGEN.....	0.1	-----	TRACE	-----	0.1	-----
ARGON.....	0.1		0.0		0.0	
HYDROGEN.....	TRACE	-----	TRACE	-----	TRACE	-----
HYDROGEN SULFIDE**.....	0.0		0.0		0.0	
CARBON DIOXIDE.....	0.1	-----	0.3	-----	0.0	-----
HELIUM.....	0.49		0.75		0.54	
HEATING VALUE*.....	971	-----	984	-----	1030	-----
SPECIFIC GRAVITY.....	0.699		0.668		0.733	

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

			INDEX	25		INDEX	26	
			SAMPLE	19783		SAMPLE	19755	
						INDEX	27	
						SAMPLE	19883	
STATE.....	KANSAS		LOUISIANA			LOUISIANA		
COUNTY.....	STEVENS		BIENVILLE			BOSSIER		
FIELD.....	PERRILL SW		BEAR CREEK			IVAN		
WELL NAME.....	MLP DALE A NO. 1		LA MIN.B: BR OZ RA SUCC NO.1			PARDEE NO. 3-ALT		
API.....	15-189-21445		17-013-20854			17-015-22749		
LOCATION.....	SEC. 19, T31S, R38W		SEC. 8, T16N, R5W			SEC. 26, T21N, R11W		
OWNER.....	OXY U.S.A., INC.		SONAT EXPLORATION CO.			ORyx ENERGY CO.		
COMPLETED.....	91/07/16		94/03/00			95/05/11		
SAMPLED.....	94/06/08		94/04/19			95/09/14		
FORMATION.....	PENN-MORROW		CRET-BROWN-OZLEY			JURA-SMACKOVER, GRAY SAND		
GEOLOGIC PROVINCE CODE...	360		230			230		
DEPTH, FEET.....	5648		7780			11900		
WELLHEAD PRESSURE, PSIG...	537		2250			4650		
OPEN FLOW, MCFD.....	1712		1021			5000		
COMPONENT, MOLE PCT								
METHANE.....	85.3	-----	96.7	-----		92.6	-----	
ETHANE.....	4.5		0.8			2.6		
PROPANE.....	3.1	-----	0.2	-----		0.8	-----	
N-BUTANE.....	0.0		0.1			0.4		
ISOBUTANE.....	1.4	-----	0.0	-----		0.6	-----	
N-PENTANE.....	0.6		0.0			0.4		
ISOPENTANE.....	0.0	-----	0.1	-----		0.0	-----	
CYCLOPENTANE.....	0.0		0.0			0.0		
HEXANES PLUS.....	0.2	-----	0.0	-----		0.4	-----	
NITROGEN.....	4.5		0.7			0.1		
OXYGEN.....	0.0	-----	0.0	-----		0.1	-----	
ARGON.....	TRACE		TRACE			0.0		
HYDROGEN.....	TRACE	-----	TRACE	-----		TRACE	-----	
HYDROGEN SULFIDE**.....	0.0		0.0			0.0		
CARBON DIOXIDE.....	0.1	-----	1.4	-----		2.0	-----	
HELIUM.....	0.33		0.03			0.01		
HEATING VALUE*.....	1106	-----	1005	-----		1079	-----	
SPECIFIC GRAVITY.....	0.662		0.579			0.629		

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX SAMPLE 19715	INDEX SAMPLE 19742	INDEX SAMPLE 19710
STATE.....	LOUISIANA	LOUISIANA	LOUISIANA
PARISH.....	DE SOTO	PLAQUEMINES	ST. CHARLES
FIELD.....	SPIDER	LAKE WASHINGTON	PARADIS
WELL NAME.....	DE SOTO OIL & GAS TRUST NO.2	COCKRELL MORAN C NO. 1	IDEAL FUR CO. NO. 1
API.....	17-031-22946	17-075-23658	17-089-00653
LOCATION.....	SEC. 25, T12N, R15W	SEC. 14, T20S, R27E	SEC. 25, T13S, R19E
OWNER.....	KERR-MCGEE CORP.	LOUISIANA LAND & EXPLORATION C	TEXACO INC.
COMPLETED.....	93/11/30	93/12/01	93/11/04
SAMPLED.....	94/02/03	94/03/16	93/12/29
FORMATION.....	CRET-HOSSTON	MIOC-P-4 SAND	MIOC-U-3 SAND, ROB L
GEOLOGIC PROVINCE CODE...	230	220	220
DEPTH, FEET.....	6680	12566	11147
WELLHEAD PRESSURE, PSIG...	2000	4100	1700
OPEN FLOW, MCFD.....	1056	1677	3000
COMPONENT, MOLE PCT			
METHANE.....	96.3 -----	97.4 -----	92.7 -----
ETHANE.....	0.5 -----	1.3 -----	3.7 -----
PROPANE.....	0.1 -----	0.3 -----	1.5 -----
N-BUTANE.....	0.0 -----	0.0 -----	0.4 -----
ISOBUTANE.....	0.0 -----	0.1 -----	0.3 -----
N-PENTANE.....	0.0 -----	0.0 -----	0.1 -----
ISOPENTANE.....	0.0 -----	0.0 -----	0.1 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.1 -----	0.0 -----	0.1 -----
NITROGEN.....	2.3 -----	0.4 -----	0.4 -----
OXYGEN.....	0.0 -----	TRACE -----	TRACE -----
ARGON.....	0.0 -----	TRACE -----	TRACE -----
HYDROGEN.....	TRACE -----	0.1 -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.7 -----	0.5 -----	0.7 -----
HELIUM.....	0.03 -----	TRACE -----	TRACE -----
HEATING VALUE*.....	990 -----	1020 -----	1081 -----
SPECIFIC GRAVITY.....	0.576	0.571	0.613

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H<sub>2</sub>S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 31 SAMPLE 19747	INDEX 32 SAMPLE 19729	INDEX 33 SAMPLE 19697
STATE.....	LOUISIANA	LOUISIANA	LOUISIANA
PARISH.....	TERREBONNE	TERREBONNE	VERMILION
FIELD.....	LAKE PELTO	SHIP SHOAL	RICEVILLE E
WELL NAME.....	LAKE PELTO UNIT 13 NO. 54	STATE LEASE 14158 NO. 1	ZEMA M. HUMBLE NO. 1
API.....	17-109-21284		
LOCATION.....	SEC. 29, T23S, R18E	BLK. 45, SHIP SHOAL	SEC. 25, T11S, R2W
OWNER.....	TEXACO INC.	ESTATE OF WILLIAM G. HELIS	GREAT RIVER OIL & GAS CORP.
COMPLETED.....	73/05/22	92/06/00	92/10/12
SAMPLED.....	94/03/14	94/02/24	93/12/14
FORMATION.....	MIOC-BIGENERINA A	MIOC-CRISTELLARIA SAND	OLIG-MIOGYPSINOIDES
GEOLOGIC PROVINCE CODE...	220	220	220
DEPTH, FEET.....	9288	10731	16940
WELLHEAD PRESSURE, PSIG...	100	3700	10558
OPEN FLOW, MCFD.....	300	5200	14100
COMPONENT, MOLE PCT			
METHANE.....	95.0 -----	93.4 -----	96.9 -----
ETHANE.....	2.3 -----	2.7 -----	0.3 -----
PROPANE.....	1.0 -----	1.2 -----	0.1 -----
N-BUTANE.....	0.3 -----	0.4 -----	0.0 -----
ISOBUTANE.....	0.3 -----	0.3 -----	0.0 -----
N-PENTANE.....	0.2 -----	0.3 -----	0.0 -----
ISOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
CYCLOPENTANE.....	0.1 -----	0.1 -----	0.0 -----
HEXANES PLUS.....	0.2 -----	0.3 -----	0.0 -----
NITROGEN.....	0.4 -----	1.0 -----	0.5 -----
OXYGEN.....	0.0 -----	0.1 -----	0.0 -----
ARGON.....	TRACE	TRACE	0.0
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.3 -----	0.3 -----	2.2 -----
HELIUM.....	TRACE	TRACE	0.04
HEATING VALUE*.....	1071 -----	1079 -----	989 -----
SPECIFIC GRAVITY.....	0.599	0.611	0.580

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 34 SAMPLE 19739		INDEX 35 SAMPLE 19761		INDEX 36 SAMPLE 19869	
STATE.....	LOUISIANA	LOUISIANA		MISSISSIPPI	
PARISH.....	WEBSTER	WEBSTER		ADAMS	
FIELD.....	COTTON VALLEY	SHONGALOO N		HOLIDAY	
WELL NAME.....	E. SMITH ET AL 29 NO. 1	HA RD SUK:LONGINO-GOOD NO.7		BOE NO. 1-D	
API.....	17-119-21509	17-119-21496		23-001-23152	
LOCATION.....	SEC. 29, T21N, R10W	SEC. 7, T23N, R9W		SEC. 16, T5N, R1W	
OWNER.....	MARATHON OIL CO.	MARATHON OIL CO.		OXY U.S.A., INC.	
COMPLETED.....	93/12/29	93/02/03		93/08/01	
SAMPLED.....	94/03/21	94/05/03		95/05/10	
FORMATION.....	JURA-GRAY	JURA-HAYNESVILLE		CRET-TUSCALOOSA L	
GEOLOGIC PROVINCE CODE...	230	230		210	
DEPTH, FEET.....	10907	10344		11026	
WELLHEAD PRESSURE,PSIG...	3000	1000		3350	
OPEN FLOW, MCFD.....	3200	150		1700	
COMPONENT, MOLE PCT					
METHANE.....	89.4 -----	84.4 -----		84.4 -----	
ETHANE.....	4.9 -----	5.5 -----		6.9 -----	
PROPANE.....	1.7 -----	2.4 -----		2.6 -----	
N-BUTANE.....	0.6 -----	1.0 -----		0.6 -----	
ISOBUTANE.....	0.9 -----	0.7 -----		0.6 -----	
N-PENTANE.....	0.4 -----	0.3 -----		0.0 -----	
ISOPENTANE.....	TRACE -----	0.5 -----		0.1 -----	
CYCLOPENTANE.....	0.0 -----	0.0 -----		0.0 -----	
HEXANES PLUS.....	0.3 -----	0.1 -----		0.1 -----	
NITROGEN.....	0.2 -----	3.4 -----		1.6 -----	
OXYGEN.....	0.0 -----	TRACE -----		0.4 -----	
ARGON.....	TRACE -----	0.0 -----		0.0 -----	
HYDROGEN.....	TRACE -----	TRACE -----		TRACE -----	
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----		0.0 -----	
CARBON DIOXIDE.....	1.8 -----	1.8 -----		2.7 -----	
HELIUM.....	TRACE -----	0.02 -----		0.02 -----	
HEATING VALUE*.....	1116 -----	1107 -----		1095 -----	
SPECIFIC GRAVITY.....	0.650	0.680		0.672	

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE



TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

		INDEX 37	INDEX 38	INDEX 39
		SAMPLE 19735	SAMPLE 19891	SAMPLE 19379
STATE.....	MISSISSIPPI	MISSISSIPPI	MISSISSIPPI	MISSISSIPPI
COUNTY.....	COVINGTON	COVINGTON	MARION	
FIELD.....	DRY CREEK DOME	DRY CREEK DOME	SANDY HOOK W	
WELL NAME.....	MINERALS MANAGEMENT 28-1 N01	WILLIE VON MCRANEY, SR NO. 1	J. W. HART NO. 1	
API.....	23-031-21457	23-031-20161		
LOCATION.....	SEC. 28, T8N, R17W	SEC. 28, T8N, R17W	SEC. 27, T1N, R14E	
OWNER.....	AMERADA HESS CORP.	AMERADA HESS CORP.	UMC PETROLEUM CORP.	
COMPLETED.....	93/10/02	95/03/13	92/01/26	
SAMPLED.....	94/03/18	95/11/28	92/04/20	
FORMATION.....	CRET-HOSSTON	CRET-HOSSTON	CRET-PALUXY	
GEOLOGIC PROVINCE CODE...	210	210	210	
DEPTH, FEET.....	14200	15018	11800	
WELLHEAD PRESSURE, PSIG...	2292	4400	3670	
OPEN FLOW, MCFD.....	160	6618	1700	
COMPONENT, MOLE PCT				
METHANE.....	92.3 -----	92.0 -----	95.2 -----	
ETHANE.....	1.0 -----	4.5 -----	0.4 -----	
PROPANE.....	0.7 -----	0.7 -----	0.1 -----	
N-BUTANE.....	0.5 -----	0.2 -----	0.0 -----	
ISOBUTANE.....	0.1 -----	0.2 -----	0.0 -----	
N-PENTANE.....	0.3 -----	0.2 -----	0.0 -----	
ISOPENTANE.....	TRACE -----	0.2 -----	0.1 -----	
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----	
HEXANES PLUS.....	0.2 -----	0.0 -----	0.0 -----	
NITROGEN.....	1.9 -----	1.9 -----	2.3 -----	
OXYGEN.....	0.0 -----	0.0 -----	0.3 -----	
ARGON.....	TRACE -----	0.0 -----	0.0 -----	
HYDROGEN.....	TRACE -----	0.0 -----	TRACE -----	
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----	
CARBON DIOXIDE.....	3.0 -----	0.0 -----	1.6 -----	
HELIUM.....	0.04 -----	0.02 -----	0.03 -----	
HEATING VALUE*.....	1015 -----	1063 -----	977 -----	
SPECIFIC GRAVITY.....	0.623	0.606	0.586	

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX SAMPLE	40 19856	INDEX SAMPLE	41 19764	INDEX SAMPLE	42 19487
STATE.....	MONTANA		NEW MEXICO		NEW MEXICO	
COUNTY.....	BLAINE		EDDY		LEA	
FIELD.....	TIGER RIDGE		OWEN MESA		CAPROCK E	
WELL NAME.....	BLACKWOOD NO. 2-13		CORRAL FLY 35 FED. COM NO. 1		STATE COMM. UNIT NO. 1	
API.....	25-005-22668		30-015-27381		30-025-00042	
LOCATION.....	SEC. 2, T30N, R17E		SEC. 35, T24S, R29E		SEC. 11, T11S, R32E	
OWNER.....	UMC PETROLEUM CORP.		MITCHELL ENERGY & DEVELOPMENT		W.O.G., INC.	
COMPLETED.....	94/11/10		93/11/18		92/09/01	
SAMPLED.....	95/03/20		94/05/06		92/12/01	
FORMATION.....	CRET-EAGLE		PENN-MORROW		PENN-ATOKA	
GEOLOGIC PROVINCE CODE...	395		430		430	
DEPTH, FEET.....	1276		13466		10600	
WELLHEAD PRESSURE, PSIG...	324		2503		2280	
OPEN FLOW, MCFD.....	1651		1746		300	
COMPONENT, MOLE PCT						
METHANE.....	94.4	-----	97.5	-----	81.4	-----
ETHANE.....	2.0		0.9		8.1	
PROPANE.....	0.6	-----	0.2	-----	4.1	-----
N-BUTANE.....	0.1		0.0		1.6	
ISOBUTANE.....	0.1	-----	0.1	-----	0.0	-----
N-PENTANE.....	0.0		0.0		0.7	
ISOPENTANE.....	0.1	-----	0.0	-----	0.1	-----
CYCLOPENTANE.....	0.0		0.0		0.1	
HEXANES PLUS.....	0.0	-----	0.0	-----	0.3	-----
NITROGEN.....	2.6		0.6		2.0	
OXYGEN.....	TRACE	-----	0.0	-----	0.1	-----
ARGON.....	0.0		0.0		TRACE	
HYDROGEN.....	0.0	-----	TRACE	-----	TRACE	-----
HYDROGEN SULFIDE**.....	0.0		0.0		0.0	
CARBON DIOXIDE.....	0.0	-----	0.7	-----	1.4	-----
HELIUM.....	0.08		0.02		0.06	
HEATING VALUE*.....	1019	-----	1011	-----	1184	-----
SPECIFIC GRAVITY.....	0.586		0.571		0.708	

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX SAMPLE 19801	INDEX SAMPLE 19720	INDEX SAMPLE 19821
STATE.....	NEW MEXICO	NEW MEXICO	NEW MEXICO
COUNTY.....	LEA	LEA	LEA
FIELD.....	JENKINS NW	LEA	REEVES W
WELL NAME.....	APACHE NO. 1	NEUHAUS 14 FED. NO. 2	MILKY WAY STATE NO. 1
API.....	30-025-31411	30-025-31970	30-025-30941
LOCATION.....	SEC. 5, T9S, R34E	SEC. 14, T20S, R35E	SEC. 17, T18S, R35E
OWNER.....	BRIGHT & COMPANY	MANZANO OIL CORP.	MITCHELL ENERGY & DEVELOPMENT
COMPLETED.....	93/03/03	93/07/14	94/03/04
SAMPLED.....	94/07/00	94/02/08	94/09/00
FORMATION.....	PENN-ATOKA	PERM-WOLFCAMP	PERM-DELAWARE
GEOLOGIC PROVINCE CODE...	430	430	430
DEPTH, FEET.....	10998	11574	4327
WELLHEAD PRESSURE, PSIG...	450	1200	960
OPEN FLOW, MCFD.....	500	7500	1756
COMPONENT, MOLE PCT			
METHANE.....	78.9 -----	79.7 -----	61.3 -----
ETHANE.....	10.3 -----	11.0 -----	6.6 -----
PROPANE.....	4.9 -----	4.9 -----	3.3 -----
N-BUTANE.....	1.5 -----	1.4 -----	0.8 -----
ISOBUTANE.....	0.7 -----	0.6 -----	0.4 -----
N-PENTANE.....	0.3 -----	0.4 -----	0.2 -----
ISOPENTANE.....	0.4 -----	0.2 -----	0.1 -----
CYCLOPENTANE.....	0.1 -----	0.1 -----	0.1 -----
HEXANES PLUS.....	0.1 -----	0.2 -----	0.1 -----
NITROGEN.....	2.0 -----	1.3 -----	26.9 -----
OXYGEN.....	0.0 -----	TRACE -----	0.0 -----
ARGON.....	TRACE -----	TRACE -----	0.0 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.6 -----	0.3 -----	0.0 -----
HELIUM.....	0.07 -----	0.02 -----	0.15 -----
HEATING VALUE*.....	1226 -----	1236 -----	887 -----
SPECIFIC GRAVITY.....	0.721 -----	0.713 -----	0.760 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 46 SAMPLE 19831			INDEX 47 SAMPLE 19822			INDEX 48 SAMPLE 19731		
STATE.....	NEW MEXICO		OHIO			OKLAHOMA		
COUNTY.....	RIO ARriba		WAYNE			ALFALFA		
FIELD.....	TAPACITO		FREDRICKSBURG			BYRON S		
WELL NAME.....	JICARILLA 98 NO. 10		STAN KINNEY NO. 22660			FELLERS NO. 1-31		
API.....	30-039-25306		34-169-4939			35-003-21621		
LOCATION.....	SEC. 17, T26N, R3W		FRANKLIN DIST., HOLMESVILLE QU			SEC. 31, T28N, R10W		
OWNER.....	MERIDIAN OIL, INC.		COLUMBIA NATURAL RESOURCES, IN			KAISER FRANCIS OIL CO.		
COMPLETED.....	93/12/28		93/07/29			93/12/16		
SAMPLED.....	93/10/00		94/09/08			94/03/09		
FORMATION.....	CRET-PICTURED CLIPPS, MV		ORDO-ROSE RUN			PENN-COTTAGE GROVE		
GEOLOGIC PROVINCE CODE...	580		160			360		
DEPTH, FEET.....	3757		5870			4462		
WELLHEAD PRESSURE, PSIG...	830		2200			NOT GIVEN		
OPEN FLOW, MCFD.....	7730		1300			NOT GIVEN		
COMPONENT, MOLE PCT								
METHANE.....	84.6	-----	89.7	-----		84.5	-----	
ETHANE.....	8.9		4.8			5.1		
PROPANE.....	3.6	-----	1.9	-----		3.1	-----	
N-BUTANE.....	0.9		0.6			1.2		
ISOBUTANE.....	0.6	-----	0.3	-----		0.5	-----	
N-PENTANE.....	0.3		0.2			0.4		
ISOPENTANE.....	0.2	-----	0.1	-----		0.2	-----	
CYCLOPENTANE.....	0.0		0.0			0.2		
HEXANES PLUS.....	0.2	-----	0.1	-----		0.3	-----	
NITROGEN.....	0.4		1.7			4.2		
OXYGEN.....	0.0	-----	0.1	-----		0.1	-----	
ARGON.....	TRACE		0.0			TRACE		
HYDROGEN.....	TRACE	-----	TRACE	-----		TRACE	-----	
HYDROGEN SULFIDE**.....	0.0		0.0			0.0		
CARBON DIOXIDE.....	0.4	-----	0.2	-----		0.2	-----	
HELIUM.....	0.02		0.05			0.14		
HEATING VALUE*.....	1186	-----	1102	-----		1131	-----	
SPECIFIC GRAVITY.....	0.674		0.632			0.676		

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 49 SAMPLE 19758		INDEX 50 SAMPLE 19790		INDEX 51 SAMPLE 19711
STATE.....	OKLAHOMA		OKLAHOMA		OKLAHOMA
COUNTY.....	ALFALFA		BEAVER		CADDO
FIELD.....	CHEROKITA TREND		BALKO S		CEMENT
WELL NAME.....	JOANNE NO. 1-6		NAYLOR NO. 1-4		DUNN NO. 1-26
API.....	35-003-21594		35-007-23965		35-015-22187
LOCATION.....	SEC. 6, T27N, R10W		SEC. 4, T1N, R22ECM		SEC. 26, T6N, R10W
OWNER.....	PETROCORP, INC.		MARATHON OIL CO.		AMOCO PRODUCTION CO.
COMPLETED.....	93/05/13		93/11/05		92/12/23
SAMPLED.....	94/04/29		94/06/13		94/01/13
FORMATION.....	PENN-COTTAGE GROVE		MISS-ST. LOUIS		PENN-HOXBAR, CULP
GEOLOGIC PROVINCE CODE...	360		360		360
DEPTH, FEET.....	4478		8340		10300
WELLHEAD PRESSURE, PSIG...	1615		1384		1800
OPEN FLOW, MCFD.....	7104		1210		26437
COMPONENT, MOLE PCT					
METHANE.....	85.2 -----		91.9 -----		90.3 -----
ETHANE.....	5.1 -----		2.2 -----		4.6 -----
PROPANE.....	3.0 -----		0.6 -----		2.6 -----
N-BUTANE.....	0.9 -----		0.5 -----		0.7 -----
ISOBUTANE.....	0.6 -----		0.0 -----		0.3 -----
N-PENTANE.....	0.1 -----		0.0 -----		0.2 -----
ISOPENTANE.....	0.3 -----		0.3 -----		0.1 -----
CYCLOPENTANE.....	0.0 -----		0.0 -----		0.1 -----
HEXANES PLUS.....	0.1 -----		0.0 -----		0.1 -----
NITROGEN.....	4.5 -----		3.5 -----		0.6 -----
OXYGEN.....	0.1 -----		0.4 -----		0.0 -----
ARGON.....	TRACE		0.1		TRACE
HYDROGEN.....	TRACE -----		TRACE -----		TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----		0.0 -----		0.0 -----
CARBON DIOXIDE.....	0.1 -----		0.3 -----		0.3 -----
HELIUM.....	0.15 -----		0.25 -----		0.03 -----
HEATING VALUE*.....	1096 -----		1018 -----		1121 -----
SPECIFIC GRAVITY.....	0.659		0.605		0.634

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 52 SAMPLE 19756			INDEX 53 SAMPLE 19737			INDEX 54 SAMPLE 19866		
STATE.....	OKLAHOMA		OKLAHOMA			OKLAHOMA		
COUNTY.....	CARTER		CUSTER			CUSTER		
FIELD.....	CADDO		CRANE W			CUSTER CITY N		
WELL NAME.....	GEORGE AKERS NO. 3-34		CHRISTENSEN UNIT NO. 1-15			STEPHANIE NO. 1-26		
API.....	35-019-24207		35-039-50028			35-039-20727		
LOCATION.....	SEC. 34, T2S, R1W		SEC. 15, T15N, R15W			SEC. 26, T15N, R16W		
OWNER.....	M. W. PETROLEUM CORP.		MOBIL OIL CORP.			TOKLAN OIL & GAS CORP.		
COMPLETED.....	94/01/02		92/07/28			95/02/14		
SAMPLED.....	94/04/19		94/03/14			95/04/24		
FORMATION.....	PENN-SPRINGER, MISS-GODDARD		PENN-OSWEGO			ORDO-VIOLA		
GEOLOGIC PROVINCE CODE...	350		360			360		
DEPTH, FEET.....	3946		9674			14920		
WELLHEAD PRESSURE, PSIG...	242		400			1658		
OPEN FLOW, MCFD.....	273		95			1620		
COMPONENT, MOLE PCT								
METHANE.....	89.2	-----	91.9	-----		96.4	-----	
ETHANE.....	5.9		4.1			0.7		
PROPANE.....	2.6	-----	1.4	-----		0.2	-----	
N-BUTANE.....	0.7		0.3			0.0		
ISOBUTANE.....	0.3	-----	0.1	-----		0.1	-----	
N-PENTANE.....	0.1		0.1			0.0		
ISOPENTANE.....	0.2	-----	0.1	-----		0.0	-----	
CYCLOPENTANE.....	0.0		0.0			0.0		
HEXANES PLUS.....	0.1	-----	0.1	-----		0.1	-----	
NITROGEN.....	0.9		1.2			0.2		
OXYGEN.....	TRACE	-----	TRACE	-----		0.0	-----	
ARGON.....	0.0		TRACE			TRACE		
HYDROGEN.....	TRACE	-----	TRACE	-----		TRACE	-----	
HYDROGEN SULFIDE**.....	0.0		0.0			0.0		
CARBON DIOXIDE.....	0.1	-----	0.6	-----		2.3	-----	
HELIUM.....	0.05		0.06			0.02		
HEATING VALUE*.....	1127	-----	1068	-----		1000	-----	
SPECIFIC GRAVITY.....	0.637		0.611			0.586		

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 55 SAMPLE 19872	INDEX 56 SAMPLE 19873	INDEX 57 SAMPLE 19712
STATE.....	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY.....	ELLIS	GRADY	HARPER
FIELD.....	SHATTUCK S	CHITWOOD	NOT GIVEN
WELL NAME.....	IRA NORTHRUP NO. 2	RIDDLE NO. 4-32	STATE "E" NO. 1
API.....	35-045-21776	35-051-22472	
LOCATION.....	SEC . 21, T17N, R26W	SEC. 32, T5N, R5W	SEC. 16, T27N, R20W
OWNER.....	DEVON ENERGY CORP.	HOME-STAKE ROYALTY CORP.	UNIT PETROLEUM CO.
COMPLETED.....	95/03/09	95/01/20	93/09/07
SAMPLED.....	95/04/30	95/06/21	94/01/08
FORMATION.....	PENN-TONKAWA	MISS-SYC,DV-WDFD,HTN,ORD-VIO	PENN-MORROW
GEOLOGIC PROVINCE CODE...	360	360	360
DEPTH, FEET.....	7332	12756	5910
WELLHEAD PRESSURE,PSIG...	1800	2100	2000
OPEN FLOW, MCFD.....	2489	1545	2140
COMPONENT, MOLE PCT			
METHANE.....	82.0 -----	78.3 -----	93.7 -----
ETHANE.....	8.8 -----	9.3 -----	2.5 -----
PROPANE.....	4.1 -----	3.7 -----	0.8 -----
N-BUTANE.....	1.0 -----	1.4 -----	0.2 -----
ISOBUTANE.....	0.5 -----	0.4 -----	0.0 -----
N-PENTANE.....	0.3 -----	0.6 -----	0.0 -----
ISOPENTANE.....	0.1 -----	0.1 -----	0.2 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.1 -----	0.2 -----	0.0 -----
NITROGEN.....	2.2 -----	4.1 -----	1.6 -----
OXYGEN.....	0.4 -----	1.4 -----	0.6 -----
ARGON.....	0.0 -----	0.1 -----	0.0 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.3 -----	0.3 -----	0.2 -----
HELIUM.....	0.08 -----	0.03 -----	0.08 -----
HEATING VALUE*.....	1172 -----	1160 -----	1031 -----
SPECIFIC GRAVITY.....	0.688	0.713	0.594

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE



TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 58 SAMPLE 19863		INDEX 59 SAMPLE 19846		INDEX 60 SAMPLE 19802	
STATE.....	OKLAHOMA	OKLAHOMA	OKLAHOMA	OKLAHOMA	
COUNTY.....	LATIMER	OKLAHOMA	PITTSBURG	PITTSBURG	
FIELD.....	TALIHINA NW	LUTHER N	PINE HOLLOW S	PINE HOLLOW S	
WELL NAME.....	SECOR NO. 1-21	MAYER NO. 1-22	DOMINIC NO. 2	DOMINIC NO. 2	
API.....	35-077-20812	35-109-21232	35-121-21764	35-121-21764	
LOCATION.....	SEC. 28, T4N, R21E	SEC. 22, T14N, R1E	SEC. 35, T6N, R13E	SEC. 35, T6N, R13E	
OWNER.....	WARD PETROLEUM CORP.	WILLIAM MULLEN COMPANY	G M OIL PROPERTIES, INC.	G M OIL PROPERTIES, INC.	
COMPLETED.....	95/02/10	93/12/06	93/11/29	93/11/29	
SAMPLED.....	95/04/00	94/12/22	94/07/00	94/07/00	
FORMATION.....	PENN-ATOKA L	PENN-SKINNER	PENN-HARTSHORNE	PENN-HARTSHORNE	
GEOLOGIC PROVINCE CODE...	345	355	345	345	
DEPTH, FEET.....	7702	4986	3710	3710	
WELLHEAD PRESSURE, PSIG...	2800	726	300	300	
OPEN FLOW, MCFD.....	4276	1998	1189	1189	
COMPONENT, MOLE PCT					
METHANE.....	95.3 -----	82.7 -----	89.0 -----	89.0 -----	
ETHANE.....	3.2 -----	6.6 -----	6.6 -----	6.6 -----	
PROPANE.....	0.6 -----	3.3 -----	2.4 -----	2.4 -----	
N-BUTANE.....	0.1 -----	0.9 -----	0.5 -----	0.5 -----	
ISOBUTANE.....	0.1 -----	0.3 -----	0.3 -----	0.3 -----	
N-PENTANE.....	0.0 -----	0.3 -----	0.2 -----	0.2 -----	
ISOPENTANE.....	0.0 -----	0.1 -----	0.0 -----	0.0 -----	
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----	0.0 -----	
HEXANES PLUS.....	0.1 -----	0.1 -----	0.1 -----	0.1 -----	
NITROGEN.....	0.2 -----	5.3 -----	0.4 -----	0.4 -----	
OXYGEN.....	TRACE -----	0.0 -----	0.0 -----	0.0 -----	
ARGON.....	TRACE -----	TRACE -----	TRACE -----	TRACE -----	
HYDROGEN.....	0.0 -----	TRACE -----	0.0 -----	0.0 -----	
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----	0.0 -----	
CARBON DIOXIDE.....	0.4 -----	0.2 -----	0.5 -----	0.5 -----	
HELIUM.....	0.03 -----	0.09 -----	0.03 -----	0.03 -----	
HEATING VALUE*.....	1050 -----	1107 -----	1122 -----	1122 -----	
SPECIFIC GRAVITY.....	0.586	0.673	0.636	0.636	

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX SAMPLE 19627	INDEX SAMPLE 19828	INDEX SAMPLE 19857
STATE.....	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY.....	STEPHENS	STEPHENS	STEPHENS
FIELD.....	CRUCE W	DUNCAN NE	KNOX
WELL NAME.....	MARMADUKE NO. 1	SCHEER NO. 1	SLEDGE A NO. 1-23
API.....	35-137-25088	35-137-25138	35-137-00674
LOCATION.....	SEC. 29, T1N, R6W	SEC. 24, T1N, R7W	SEC. 23, T2N, R5W
OWNER.....	WILLIFORD ENERGY CO.	WILLIFORD ENERGY CO.	CHESAPEAKE OPERATING, INC.
COMPLETED.....	92/09/23	93/05/17	94/12/01
SAMPLED.....	93/06/17	94/10/02	95/03/22
FORMATION.....	PENN-CISCO	PENN-CISCO	MISS-SYC,DV-WDFD,HTN,ORD-VIO
GEOLOGIC PROVINCE CODE...	350	350	350
DEPTH, FEET.....	4997	5675	13708
WELLHEAD PRESSURE,PSIG...	1806	2045	4790
OPEN FLOW, MCFD.....	1250	3360	12988
COMPONENT, MOLE PCT			
METHANE.....	85.9 -----	88.5 -----	80.5 -----
ETHANE.....	5.5 -----	5.4 -----	6.7 -----
PROPANE.....	2.7 -----	2.5 -----	2.2 -----
N-BUTANE.....	1.0 -----	0.6 -----	0.7 -----
ISOBUTANE.....	0.1 -----	0.2 -----	0.2 -----
N-PENTANE.....	0.3 -----	0.1 -----	0.2 -----
ISOPENTANE.....	0.2 -----	0.1 -----	0.1 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.2 -----	0.1 -----	0.1 -----
NITROGEN.....	3.8 -----	2.1 -----	6.9 -----
OXYGEN.....	TRACE -----	0.0 -----	1.7 -----
ARGON.....	0.0 -----	0.0 -----	0.1 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	TRACE -----
CARBON DIOXIDE.....	0.2 -----	0.3 -----	0.6 -----
HELIUM.....	0.09 -----	0.06 -----	0.02 -----
HEATING VALUE*.....	1107 -----	1100 -----	1039 -----
SPECIFIC GRAVITY.....	0.657	0.637	0.675

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

		INDEX 64	INDEX 65	INDEX 66
		SAMPLE 19738	SAMPLE 19719	SAMPLE 19788
STATE.....	OKLAHOMA	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY.....	STEPHENS	STEPHENS	TEXAS	
FIELD.....	MARLOW S	MARLOW W	GUYMON S	
WELL NAME.....	SADLER NO. 1-36	GRAY NO. 2-22	REDWOOD NO. 1-8	
API.....		35-137-25101	3513922511	
LOCATION.....	SEC. 36, T2N, R8W	SEC. 22, T2N, R8W	SEC. 8, T2N, R15ECM	
OWNER.....	CIMARRON OPERATING CO.	APACHE CORP.	SOUTHWESTERN ENERGY PRODUCTION	
COMPLETED.....	92/10/00	92/12/22	94/01/11	
SAMPLED.....	94/03/05	94/02/02	94/06/14	
FORMATION.....	MISS-SYCAMORE, DEVO-WOODFORD	PENN-BEGGS, BRISCOE	PENN-MORROW	
GEOLOGIC PROVINCE CODE...	350	350	360	
DEPTH, FEET.....	13696	8097	6381	
WELLHEAD PRESSURE, PSIG...	NOT GIVEN	1420	1549	
OPEN FLOW, MCFD.....	2060	2645	3646	
COMPONENT, MOLE PCT				
METHANE.....	92.5 -----	90.5 -----	89.9 -----	
ETHANE.....	4.5 -----	4.9 -----	5.1 -----	
PROPANE.....	1.3 -----	2.1 -----	1.8 -----	
N-BUTANE.....	0.3 -----	0.5 -----	1.2 -----	
ISOBUTANE.....	0.2 -----	0.3 -----	0.0 -----	
N-PENTANE.....	0.2 -----	0.0 -----	0.0 -----	
ISOPENTANE.....	0.0 -----	0.1 -----	0.5 -----	
CYCLOPENTANE.....	0.1 -----	0.0 -----	0.0 -----	
HEXANES PLUS.....	0.2 -----	0.1 -----	0.1 -----	
NITROGEN.....	0.2 -----	1.0 -----	0.8 -----	
OXYGEN.....	0.0 -----	0.3 -----	0.0 -----	
ARGON.....	0.0 -----	0.0 -----	0.0 -----	
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----	
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----	
CARBON DIOXIDE.....	0.5 -----	0.2 -----	0.3 -----	
HELIUM.....	0.01 -----	0.02 -----	0.12 -----	
HEATING VALUE*.....	1090 -----	1094 -----	1119 -----	
SPECIFIC GRAVITY.....	0.613	0.623	0.636	

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 67 SAMPLE 19770		INDEX 68 SAMPLE 19885		INDEX 69 SAMPLE 19796	
STATE.....	OKLAHOMA	OKLAHOMA		OREGON	
COUNTY.....	TEXAS	WASHITA		COLUMBIA	
FIELD.....	WILDCAT	BURNS FLAT W		MIST	
WELL NAME.....	ATKINS B NO. 7	SCHRECK NO. 1-8		SOCKEYE NO. 31-15-65	
API.....	35-139-22502	35-149-20699		36-009-00294	
LOCATION.....	SEC. 35, T1N, R17ECM	SEC 8, T10N, R19W		SEC. 15, T6N, R5W	
OWNER.....	PHILLIPS PETROLEUM CO.	ST. MARY OPERATING CO.		NAHAMA & WEAGANT ENERGY CO.	
COMPLETED.....	94/02/24	95/04/12		92/11/18	
SAMPLED.....	94/05/00	95/11/10		94/06/28	
FORMATION.....	PENN-ATOKA	PENN-GRANITE WASH		EOCE-CLARK, WILSON	
GEOLOGIC PROVINCE CODE...	360	360		710	
DEPTH, FEET.....	6481	13546		2260	
WELLHEAD PRESSURE,PSIG...	723	5694		160	
OPEN FLOW, MCFD.....	2996	2021		500	
COMPONENT, MOLE PCT					
METHANE.....	88.4 -----	84.9 -----		92.0 -----	
ETHANE.....	4.9 -----	8.4 -----		0.1 -----	
PROPANE.....	2.9 -----	3.7 -----		0.1 -----	
N-BUTANE.....	0.8 -----	1.0 -----		0.0 -----	
ISOBUTANE.....	0.2 -----	0.4 -----		0.0 -----	
N-PENTANE.....	0.1 -----	0.2 -----		0.0 -----	
ISOPENTANE.....	0.1 -----	0.2 -----		0.0 -----	
CYCLOPENTANE.....	0.0 -----	0.0 -----		0.0 -----	
HEXANES PLUS.....	0.1 -----	0.1 -----		0.0 -----	
NITROGEN.....	2.0 -----	0.7 -----		7.8 -----	
OXYGEN.....	0.1 -----	0.1 -----		0.0 -----	
ARGON.....	TRACE	TRACE		0.0 -----	
HYDROGEN.....	TRACE -----	TRACE -----		TRACE -----	
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----		0.0 -----	
CARBON DIOXIDE.....	0.2 -----	0.5 -----		0.0 -----	
HELIUM.....	0.19 -----	0.04 -----		0.01 -----	
HEATING VALUE*.....	1108 -----	1170 -----		934 -----	
SPECIFIC GRAVITY.....	0.641	0.669		0.588	

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 70 SAMPLE 19791			INDEX 71 SAMPLE 19834			INDEX 72 SAMPLE 19769		
STATE..... SOUTH DAKOTA			TEXAS			TEXAS		
COUNTY..... FALL RIVER			ARANSAS			COLORADO		
FIELD..... IGL00			CONN BROWN HARBOR			EL NINO		
WELL NAME..... POSEIDON FEDERAL NO. 24-32			STATE TRACT 278A NO. 1			GHEENS-MILLER NO. 1		
API..... 40-047-20246			42-007-30812					
LOCATION..... SEC. 32, T9S, R2E			BBB&C SUR., A-56			ELI CLAPP SUR., A-140		
OWNER..... WESTERN PRODUCTION CO.			NORTH CENTRAL OIL CORP.			SWIFT ENERGY CO.		
COMPLETED..... 89/11/23			94/02/20			93/--/00		
SAMPLED..... 94/06/14			94/10/07			94/05/05		
FORMATION..... PENN-LEO 1ST			OLIG-PRIO			EOCE-WILCOX		
GEOLOGIC PROVINCE CODE... 390			220			220		
DEPTH, FEET..... 2926			9365			9392		
WELLHEAD PRESSURE,PSIG... 300			2741			1797		
OPEN FLOW, MCFD..... 1500			4748			1837		
COMPONENT, MOLE PCT								
METHANE.....	41.6	-----	91.3	-----		83.3	-----	
ETHANE.....	8.1		3.8			6.1		
PROPANE.....	5.7	-----	1.5	-----		4.4	-----	
N-BUTANE.....	1.6		0.5			1.3		
ISOBUTANE.....	0.6	-----	0.7	-----		1.0	-----	
N-PENTANE.....	0.4		0.3			0.2		
ISOPENTANE.....	0.2	-----	0.1	-----		0.5	-----	
CYCLOPENTANE.....	0.1		0.1			0.1		
HEXANES PLUS.....	0.2	-----	0.3	-----		0.1	-----	
NITROGEN.....	40.9		0.8			0.3		
OXYGEN.....	0.3	-----	0.2	-----		0.0	-----	
ARGON.....	0.1		TRACE			TRACE		
HYDROGEN.....	TRACE	-----	0.0	-----		TRACE	-----	
HYDROGEN SULFIDE**.....	0.0		0.0			0.0		
CARBON DIOXIDE.....	0.2	-----	0.5	-----		2.7	-----	
HELIUM.....	0.17		TRACE			0.01		
HEATING VALUE*.....	823	-----	1102	-----		1185	-----	
SPECIFIC GRAVITY.....	0.873		0.630			0.709		

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

		INDEX 73	INDEX 74	INDEX 75
		SAMPLE 19859	SAMPLE 19855	SAMPLE 19785
STATE.....	TEXAS	TEXAS	TEXAS	TEXAS
COUNTY.....	CONCHO	COTTLE	DENTON	
FIELD.....	HALLORAN	RHOMBOCHASM	NEWARK E	
WELL NAME.....	CRAWFORD NO. 2	A. B. WINDFOHR 10 NO. 1	PENNINGTON GU A NO. 1	
API.....	42-095-31614	42-101-30529	42-121-30558	
LOCATION.....	SEC. 74, BLK. 8, H&TC SUR., A-	SEC. 10, BLK. K, R.M. THOMPSON	ABSOLOM C. MADDEN SUR., A-852	
OWNER.....	VERDAD OIL & GAS CORP.	BURNETT OIL CO., INC.	MITCHELL ENERGY & DEVELOPMENT	
COMPLETED.....	94/09/09	94/08/16	94/01/09	
SAMPLED.....	95/04/03	95/02/21	94/06/17	
FORMATION.....	PENN-GOEN	PENN-BEND CONGLOMERATE	MISS-BARNETT SHALE	
GEOLOGIC PROVINCE CODE...	410	435	420	
DEPTH, FEET.....	3801	7190	7794	
WELLHEAD PRESSURE, PSIG...	1050	2500	3365	
OPEN FLOW, MCFD.....	1681	11200	3170	
COMPONENT, MOLE PCT				
METHANE.....	76.9 -----	84.3 -----	90.2 -----	
ETHANE.....	7.1 -----	8.4 -----	5.7 -----	
PROPANE.....	3.8 -----	3.5 -----	1.3 -----	
N-BUTANE.....	1.0 -----	1.0 -----	0.0 -----	
ISOBUTANE.....	0.3 -----	0.3 -----	0.5 -----	
N-PENTANE.....	0.1 -----	0.1 -----	0.2 -----	
ISOPENTANE.....	0.1 -----	0.2 -----	0.0 -----	
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----	
HEXANES PLUS.....	0.0 -----	0.1 -----	0.0 -----	
NITROGEN.....	9.8 -----	1.5 -----	0.6 -----	
OXYGEN.....	0.1 -----	0.1 -----	0.0 -----	
ARGON.....	0.0 -----	0.0 -----	TRACE	
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----	
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----	
CARBON DIOXIDE.....	0.4 -----	0.5 -----	1.6 -----	
HELIUM.....	0.38 -----	0.08 -----	0.03 -----	
HEATING VALUE*.....	1058 -----	1153 -----	1070 -----	
SPECIFIC GRAVITY.....	0.695	0.668	0.624	

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 76 SAMPLE 19730	INDEX 77 SAMPLE 19867	INDEX 78 SAMPLE 19779
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	FAYETTE	FOARD	GOLIAD
FIELD.....	GIDDINGS	NEW BOOTS	BOYCE
WELL NAME.....	EDNA NO. 1-H	JOHNSON NO. 1	E. W. MUECKE NO. 1
API.....	42-149-32796	42-155-30575	42-175-32611
LOCATION.....	FRANKLIN LEWIS SUR., A-64	SEC. 35, BLK. L, SPRR SUR., A-	B. P. TUMLINSON 48 SUR., A-243
OWNER.....	SNYDER OIL CORP.	BURNETT OIL CO., INC.	ORYX ENERGY CO.
COMPLETED.....	93/11/16	94/05/02	92/06/10
SAMPLED.....	94/03/07	95/04/25	94/05/18
FORMATION.....	CRET-AUSTIN CHALK	PENN-GUNSIGHT	EOCE-WILCOX L
GEOLOGIC PROVINCE CODE...	350	435	220
DEPTH, FEET.....	11100	3252	13754
WELLHEAD PRESSURE, PSIG...	3700	920	6402
OPEN FLOW, MCFD.....	7100	2300	5500
COMPONENT, MOLE PCT			
METHANE.....	57.7 -----	73.3 -----	92.4 -----
ETHANE.....	19.6 -----	8.7 -----	0.8 -----
PROPANE.....	10.0 -----	5.5 -----	0.1 -----
N-BUTANE.....	3.7 -----	1.5 -----	0.0 -----
ISOBUTANE.....	2.4 -----	0.7 -----	0.0 -----
N-PENTANE.....	1.0 -----	0.4 -----	0.0 -----
ISOPENTANE.....	0.9 -----	0.2 -----	0.0 -----
CYCLOPENTANE.....	0.1 -----	0.1 -----	0.0 -----
HEXANES PLUS.....	0.5 -----	0.2 -----	0.0 -----
NITROGEN.....	0.3 -----	9.1 -----	0.6 -----
OXYGEN.....	0.0 -----	0.0 -----	0.1 -----
ARGON.....	TRACE	0.1 -----	0.0 -----
HYDROGEN.....	TRACE	TRACE	TRACE
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	3.8 -----	0.2 -----	6.0 -----
HELIUM.....	TRACE	0.23 -----	TRACE
HEATING VALUE*.....	1509 -----	1149 -----	955 -----
SPECIFIC GRAVITY.....	0.933	0.740	0.622

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE



TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 79  
SAMPLE 19800

INDEX 80  
SAMPLE 19399

INDEX 81  
SAMPLE 19804

STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	HANSFORD	HANSFORD	HANSFORD
FIELD.....	DAHL-HOPE	HANSFORD	SPEARMAN NW
WELL NAME.....	WALKER NO. 1	O'LOUGHLIN NO. 1	L. W. MATTHEWS NO. 4
API.....	42-195-31202	42-195-31147	42-195-30677
LOCATION.....	SEC. 156, BLK. 2, GH&H SUR.	SEC. 19, BLK. 2, WCRR SUR.	SEC. 117, BLK. 45, H&TC SUR.
OWNER.....	STRAT LAND EXPLORATION CO.	MEWBOURNE OIL CO.	AMOCO PRODUCTION CO.
COMPLETED.....	94/04/00	91/12/17	91/11/07
SAMPLED.....	94/07/12	92/06/17	94/07/07
FORMATION.....	PENN-MORROW U	PENN-DOUGLAS	PENN-DOUGLAS
GEOLOGIC PROVINCE CODE...	360	360	360
DEPTH, FEET.....	6841	5007	4909
WELLHEAD PRESSURE, PSIG...	1610	1189	1094
OPEN FLOW, MCFD.....	8000	2600	15578
COMPONENT, MOLE PCT			
METHANE.....	86.2 -----	79.7 -----	73.2 -----
ETHANE.....	6.2 -----	5.4 -----	6.2 -----
PROPANE.....	3.3 -----	3.7 -----	4.8 -----
N-BUTANE.....	1.1 -----	0.5 -----	1.9 -----
ISOBUTANE.....	0.3 -----	0.5 -----	0.6 -----
N-PENTANE.....	0.4 -----	0.0 -----	0.8 -----
ISOPENTANE.....	0.1 -----	1.2 -----	0.2 -----
CYCLOPENTANE.....	0.1 -----	0.0 -----	0.1 -----
HEXANES PLUS.....	0.2 -----	0.0 -----	0.4 -----
NITROGEN.....	1.8 -----	8.5 -----	11.3 -----
OXYGEN.....	0.1 -----	0.2 -----	0.1 -----
ARGON.....	0.0 -----	TRACE -----	0.0 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.3 -----	0.0 -----	0.2 -----
HELIUM.....	0.14 -----	0.29 -----	0.39 -----
HEATING VALUE*.....	1145 -----	1087 -----	1124 -----
SPECIFIC GRAVITY.....	0.663	0.692	0.747

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H<sub>2</sub>S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 82 SAMPLE 19698		INDEX 83 SAMPLE 19784		INDEX 84 SAMPLE 19768
STATE.....	TEXAS		TEXAS		TEXAS
COUNTY.....	HARRISON		HARTLEY		HEMPHILL
FIELD.....	TATUM N		HARTLEY HUGOTON		CANADIAN SE
WELL NAME.....	ROLLIE C. SIMS NO. 3		FROST NO. 1		JONES TRUST NO. 25-2
API.....	42-203-32209		42-205-30248		42-211-32041
LOCATION.....	J. M. SORELLE SUR., A-645		SEC. 416, BLK. 44, H&TC SUR.		SEC. 25, BLK. 1, G&M SUR.
OWNER.....	AMERICAN NATURAL ENERGY		CAMBRIDGE PRODUCTION, INC.		SONAT EXPLORATION CO.
COMPLETED.....	93/10/03		93/10/05		93/12/03
SAMPLED.....	93/12/22		94/06/07		94/05/10
FORMATION.....	JURA-COTTON VALLEY		PERM-KRIDER		PENN-DOUGLAS
GEOLOGIC PROVINCE CODE...	260		435		360
DEPTH, FEET.....	8784		3478		7146
WELLHEAD PRESSURE, PSIG...	3066		378		900
OPEN FLOW, MCFD.....	3051		1100		1500
COMPONENT, MOLE PCT					
METHANE.....	90.2 -----		70.7 -----		84.4 -----
ETHANE.....	5.1 -----		6.1 -----		7.8 -----
PROPANE.....	1.4 -----		4.3 -----		4.8 -----
N-BUTANE.....	0.4 -----		0.0 -----		1.0 -----
ISOBUTANE.....	0.2 -----		1.6 -----		0.7 -----
N-PENTANE.....	0.2 -----		0.4 -----		0.0 -----
ISOPENTANE.....	0.0 -----		0.0 -----		0.4 -----
CYCLOPENTANE.....	0.0 -----		0.0 -----		0.0 -----
HEXANES PLUS.....	0.1 -----		0.0 -----		0.0 -----
NITROGEN.....	0.7 -----		15.9 -----		0.4 -----
OXYGEN.....	0.3 -----		0.0 -----		0.0 -----
ARGON.....	0.0 -----		0.1 -----		0.0 -----
HYDROGEN.....	TRACE -----		TRACE -----		TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----		0.0 -----		0.0 -----
CARBON DIOXIDE.....	1.4 -----		0.0 -----		0.2 -----
HELIUM.....	0.01 -----		1.01 -----		0.17 -----
HEATING VALUE*.....	1077 -----		1005 -----		1197 -----
SPECIFIC GRAVITY.....	0.627 -----		0.721 -----		0.679 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 85  
SAMPLE 19781

INDEX 86  
SAMPLE 19749

INDEX 87  
SAMPLE 19759

STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	HEMPHILL	HEMPHILL	HEMPHILL
FIELD.....	CANADIAN SE	HEMPHILL	HEMPHILL
WELL NAME.....	CAMPBELL NO. 4-2	ARRINGTON RANCH NO. 9-64	FLOWERS NO. 9
API.....	42-211-32051	42-211-31990	42-211-32039
LOCATION.....	B&B SUR., NO. 2	SEC. 64, BLK. A2, H&GN SUR.	SEC 24, G&MMB&A SUR.
OWNER.....	MAXUS EXPLORATION CO.	UMC PETROLEUM CORP.	MERIDIAN OIL, INC.
COMPLETED.....	94/03/28	94/01/13	94/01/10
SAMPLED.....	94/05/31	94/04/06	94/05/00
FORMATION.....	PENN-DOUGLAS	PENN-GRANITE WASH	PENN-GRANITE WASH
GEOLOGIC PROVINCE CODE...	360	360	360
DEPTH, FEET.....	7130	10450	10550
WELLHEAD PRESSURE, PSIG...	1325	1000	1773
OPEN FLOW, MCFD.....	4650	1000	2816
COMPONENT, MOLE PCT			
METHANE.....	82.7 -----	85.1 -----	85.0 -----
ETHANE.....	7.0 -----	7.9 -----	8.4 -----
PROPANE.....	4.4 -----	3.3 -----	3.4 -----
N-BUTANE.....	1.0 -----	1.0 -----	0.9 -----
ISOBUTANE.....	0.6 -----	0.4 -----	0.5 -----
N-PENTANE.....	0.1 -----	0.3 -----	0.1 -----
ISOPENTANE.....	0.3 -----	0.3 -----	0.3 -----
CYCLOPENTANE.....	0.0 -----	0.1 -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.2 -----	0.1 -----
NITROGEN.....	3.2 -----	0.6 -----	0.6 -----
OXYGEN.....	0.2 -----	0.0 -----	0.0 -----
ARGON.....	0.0 -----	TRACE	TRACE
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.4 -----	0.7 -----	0.6 -----
HELIUM.....	0.14 -----	0.03 -----	0.03 -----
HEATING VALUE*.....	1147 -----	1175 -----	1171 -----
SPECIFIC GRAVITY.....	0.683	0.675	0.671

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H<sub>2</sub>S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 88 SAMPLE 19760	INDEX 89 SAMPLE 19812	INDEX 90 SAMPLE 19833
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	HEMPHILL	HEMPHILL	HEMPHILL
FIELD.....	HEMPHILL	HEMPHILL	HEMPHILL
WELL NAME.....	FLOWERS NO. 10	YOUNG NO. 17-66	ARRINGTON FRENCH NO. 7-54
API.....	42-211-32028	42-211-32034	42-211-32056
LOCATION.....	SEC. 226, BLK. C, G&MNB&A SUR.	SEC. 66, BLK. A-2, H&GN SUR.	SEC. 54, BLK. A-2, H&GN SUR.
OWNER.....	MERIDIAN OIL, INC.	UMC PETROLEUM CORP.	MAXUS EXPLORATION CO.
COMPLETED.....	94/01/18	93/11/24	94/04/14
SAMPLED.....	94/05/00	94/08/09	94/10/11
FORMATION.....	PENN-GRANITE WASH	PENN-GRANITE WASH	PENN-GRANITE WASH
GEOLOGIC PROVINCE CODE...	360	360	360
DEPTH, FEET.....	10522	10808	10320
WELLHEAD PRESSURE, PSIG...	1225	1295	1593
OPEN FLOW, MCFD.....	4400	4800	5600
COMPONENT, MOLE PCT			
METHANE.....	84.5 -----	85.9 -----	78.0 -----
ETHANE.....	8.2 -----	7.7 -----	11.5 -----
PROPANE.....	4.0 -----	3.1 -----	5.9 -----
N-BUTANE.....	0.0 -----	0.8 -----	1.7 -----
ISOBUTANE.....	1.6 -----	0.4 -----	0.6 -----
N-PENTANE.....	0.5 -----	0.2 -----	0.4 -----
ISOPENTANE.....	0.0 -----	0.2 -----	0.3 -----
CYCLOPENTANE.....	0.0 -----	0.1 -----	0.1 -----
HEXANES PLUS.....	0.1 -----	0.1 -----	0.2 -----
NITROGEN.....	0.5 -----	0.7 -----	0.9 -----
OXYGEN.....	0.0 -----	0.0 -----	TRACE -----
ARGON.....	0.0 -----	0.0 -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.5 -----	0.7 -----	0.6 -----
HELIUM.....	0.03 -----	0.03 -----	0.03 -----
HEATING VALUE*.....	1191 -----	1158 -----	1262 -----
SPECIFIC GRAVITY.....	0.679 -----	0.665 -----	0.731 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 91 SAMPLE 19889	INDEX 92 SAMPLE 19754	INDEX 93 SAMPLE 19847
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	HEMPHILL	HIDALGO	HOWARD
FIELD.....	WASHITA CREEK W	BELLE FERGUSON	LUTHER SE
WELL NAME.....	ELLEN NO. 1	BELLE FERGUSON NO. 4	J. J. MEADOR NO. 3
API.....	42-211-32097	42-215-31917	42-227-34794
LOCATION.....	SEC. 8, BLK A-1, H&GN SUR.	GREGARIO CANACHO SUR., NO. 68,	SEC. 37, BLK. 26, H&TC RR SUR.
OWNER.....	UPLAND RESOURCES, INC.	ENRON OIL & GAS CO.	PATTERSON PETROLEUM CO.
COMPLETED.....	95/05/09	93/12/06	94/01/11
SAMPLED.....	95/10/29	94/04/08	94/12/29
FORMATION.....	PENN-DOUGLAS	OLIG-FRIO	PENN-STRAWN
GEOLOGIC PROVINCE CODE...	360	220	430
DEPTH, FEET.....	7956	9928	7762
WELLHEAD PRESSURE, PSIG...	2500	3441	300
OPEN FLOW, MCFD.....	22000	3200	250
COMPONENT, MOLE PCT			
METHANE.....	85.0 -----	89.9 -----	57.2 -----
ETHANE.....	7.3 -----	5.7 -----	19.9 -----
PROPANE.....	3.8 -----	1.8 -----	13.9 -----
N-BUTANE.....	1.2 -----	0.5 -----	3.9 -----
ISOBUTANE.....	0.7 -----	0.6 -----	0.9 -----
N-PENTANE.....	0.4 -----	0.2 -----	0.7 -----
ISOPENTANE.....	0.2 -----	0.1 -----	0.7 -----
CYCLOPENTANE.....	0.1 -----	TRACE	0.1 -----
HEXANES PLUS.....	0.2 -----	0.1 -----	0.2 -----
NITROGEN.....	0.6 -----	0.6 -----	2.3 -----
OXYGEN.....	0.0 -----	0.2 -----	0.0 -----
ARGON.....	0.0 -----	TRACE	TRACE
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.7 -----	0.3 -----	0.2 -----
HELIUM.....	0.05 -----	TRACE	0.03 -----
HEATING VALUE*.....	1185 -----	1115 -----	1531 -----
SPECIFIC GRAVITY.....	0.680	0.632	0.910

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 94			INDEX 95			INDEX 96		
SAMPLE 19880			SAMPLE 19851			SAMPLE 19850		
STATE.....	TEXAS		TEXAS			TEXAS		
COUNTY.....	HOWARD		HUTCHINSON			IRION		
FIELD.....	TALBOT		PANHANDLE W			DOVE CREEK		
WELL NAME.....	BYNUM 46 NO. 1		C. S. CARVER NO. 5			TWEEDY A NO. 10		
API.....	42-227-34865		42-233-32521			42-235-33276		
LOCATION.....	SEC. 46, BLK. 32, T2N, T&PRR S		BLK. 5, WILLIAM HEATH SUR., NO			SEC. 1006, J.A. BYLER SUR., A-		
OWNER.....	COSTILLA PETROLEUM CORP.		TAYLOR, GORDON, OIL CO.			MARATHON OIL CO.		
COMPLETED.....	95/01/19		93/12/24			94/10/11		
SAMPLED.....	95/09/07		95/01/10			95/01/09		
FORMATION.....	PENN-CANYON		PERM-BROWN DOLOMITE			PENN-CISCO, CANYON		
GEOLOGIC PROVINCE CODE...	430		440			430		
DEPTH, FEET.....	8667		2900			5509		
WELLHEAD PRESSURE, PSIG...	1800		38			1145		
OPEN FLOW, MCFD.....	1478		3800			3521		
COMPONENT, MOLE PCT								
METHANE.....	68.6 -----		60.8 -----			71.1 -----		
ETHANE.....	15.9 -----		12.2 -----			12.0 -----		
PROPANE.....	8.2 -----		11.4 -----			7.6 -----		
N-BUTANE.....	2.2 -----		4.6 -----			2.0 -----		
ISOBUTANE.....	0.8 -----		1.7 -----			0.7 -----		
N-PENTANE.....	0.6 -----		1.2 -----			0.4 -----		
ISOPENTANE.....	0.3 -----		0.9 -----			0.4 -----		
CYCLOPENTANE.....	0.1 -----		0.2 -----			0.1 -----		
HEXANES PLUS.....	0.2 -----		0.5 -----			0.1 -----		
NITROGEN.....	3.0 -----		5.7 -----			4.2 -----		
OXYGEN.....	0.0 -----		TRACE -----			0.0 -----		
ARGON.....	TRACE -----		0.0 -----			0.0 -----		
HYDROGEN.....	TRACE -----		TRACE -----			TRACE -----		
HYDROGEN SULFIDE**.....	0.0 -----		0.3 -----			0.0 -----		
CARBON DIOXIDE.....	0.1 -----		0.3 -----			1.4 -----		
HELIUM.....	0.04 -----		0.22 -----			0.08 -----		
HEATING VALUE*.....	1342 -----		1468 -----			1261 -----		
SPECIFIC GRAVITY.....	0.797 -----		0.909 -----			0.778 -----		

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 97 SAMPLE 19852		INDEX 98 SAMPLE 19705		INDEX 99 SAMPLE 19743
STATE.....	TEXAS		TEXAS		TEXAS
COUNTY.....	JACKSON		JIM HOGG		JIM WELLS
FIELD.....	FENNER		HELLEN		CAPTAIN LUCE
WELL NAME.....	FENNER NO. 2		DANA HELLEN NO. 11C		LEONA DODD NO. 2
API.....	42-239-32733		42-247-32015		42-249-00826
LOCATION.....	SAMUEL CHANCE SUR., A-11		SEC. 150, DUVAL CSL SUR., A-36		A. GARCIA SUR., A-168
OWNER.....	YUMA PETROLEUM CO.		DAN A. HUGHES CO.		DEWBRE PETROLEUM CORP.
COMPLETED.....	93/11/18		93/10/00		94/01/08
SAMPLED.....	95/01/10		94/01/03		94/03/30
FORMATION.....	OLIG-PRIO		EOCE-COOK MOUNTAIN		MIOC-3800 SAND
GEOLOGIC PROVINCE CODE...	220		220		220
DEPTH, FEET.....	3937		5180		3771
WELLHEAD PRESSURE, PSIG...	1570		1841		1290
OPEN FLOW, MCFD.....	6600		2975		1300
COMPONENT, MOLE PCT					
METHANE.....	98.4 -----		88.9 -----		98.7 -----
ETHANE.....	0.2 -----		5.2 -----		0.3 -----
PROPANE.....	0.1 -----		2.9 -----		0.1 -----
N-BUTANE.....	0.1 -----		0.7 -----		0.0 -----
ISOBUTANE.....	0.0 -----		0.6 -----		TRACE -----
N-PENTANE.....	0.1 -----		0.3 -----		0.0 -----
ISOPENTANE.....	0.0 -----		0.1 -----		0.0 -----
CYCLOPENTANE.....	0.1 -----		0.0 -----		0.0 -----
HEXANES PLUS.....	0.1 -----		0.1 -----		0.0 -----
NITROGEN.....	0.5 -----		0.6 -----		0.0 -----
OXYGEN.....	0.0 -----		0.2 -----		0.0 -----
ARGON.....	0.0 -----		0.0 -----		0.0 -----
HYDROGEN.....	TRACE -----		TRACE -----		0.0 -----
HYDROGEN SULFIDE**.....	0.0 -----		0.0 -----		TRACE -----
CARBON DIOXIDE.....	0.4 -----		0.4 -----		0.9 -----
HELIUM.....	0.01 -----		TRACE -----		0.01 -----
HEATING VALUE*.....	1017 -----		1132 -----		1007 -----
SPECIFIC GRAVITY.....	0.569 -----		0.646 -----		0.566 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE



TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 100 SAMPLE 19762		INDEX 101 SAMPLE 19776		INDEX 102 SAMPLE 19777
STATE.....	TEXAS		TEXAS		TEXAS
COUNTY.....	LIPSCOMB		LIPSCOMB		LIPSCOMB
FIELD.....	BRADFORD		BRADFORD		BRADFORD
WELL NAME.....	PIPER B NO. 2		PIPER NO. A-3		MILLER NO. B-5
API.....	42-295-32124		42-295-32154		42-295-32155
LOCATION.....	SEC. 777, BLK. 43, H&TC SUR.		SEC. 776, BLK. 43, H&TC SUR.		SEC. 778, BLK. 43, H&TC SUR.
OWNER.....	MAXUS EXPLORATION CO.		MAXUS EXPLORATION CO.		MAXUS EXPLORATION CO.
COMPLETED.....	94/03/07		94/04/03		94/04/01
SAMPLED.....	94/05/03		94/05/26		94/05/26
FORMATION.....	PENN-CLEVELAND		PENN-CLEVELAND		PENN-CLEVELAND
GEOLOGIC PROVINCE CODE...	360		360		360
DEPTH, FEET.....	7670		7586		7680
WELLHEAD PRESSURE, PSIG...	1213		1547		922
OPEN FLOW, MCFD.....	1655		10050		2030
COMPONENT, MOLE PCT					
METHANE.....	84.8 -----		86.0 -----		83.0 -----
ETHANE.....	7.5 -----		7.2 -----		7.5 -----
PROPANE.....	3.8 -----		3.2 -----		5.0 -----
N-BUTANE.....	1.2 -----		1.0 -----		0.0 -----
ISOBUTANE.....	0.4 -----		0.1 -----		2.0 -----
N-PENTANE.....	0.3 -----		0.5 -----		0.9 -----
ISOPENTANE.....	0.3 -----		0.1 -----		0.0 -----
CYCLOPENTANE.....	0.1 -----		0.1 -----		0.1 -----
HEXANES PLUS.....	0.2 -----		0.3 -----		0.3 -----
NITROGEN.....	0.9 -----		0.8 -----		1.0 -----
OXYGEN.....	0.0 -----		0.0 -----		0.0 -----
ARGON.....	TRACE		TRACE		0.0
HYDROGEN.....	0.0 -----		0.0 -----		0.0 -----
HYDROGEN SULFIDE**.....	0.0 -----		0.0 -----		0.0 -----
CARBON DIOXIDE.....	0.4 -----		0.6 -----		0.2 -----
HELIUM.....	0.08 -----		0.08 -----		0.08 -----
HEATING VALUE*.....	1183 -----		1166 -----		1228 -----
SPECIFIC GRAVITY.....	0.678		0.669		0.703

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 103 SAMPLE 19778			INDEX 104 SAMPLE 19797			INDEX 105 SAMPLE 19817		
STATE.....	TEXAS		TEXAS			TEXAS		
COUNTY.....	LIPSCOMB		LIPSCOMB			LIPSCOMB		
FIELD.....	BRADFORD		BRADFORD			BRADFORD		
WELL NAME.....	BRADFORD NO. B-4		MARTIN MANDALEK NO. 3			LYDIA BRADFORD NO. 3		
API.....	42-295-32163		42-295-32150			42-295-31632		
LOCATION.....	SEC. 687, BLK. 43, H&TC SUR.		SEC. 867, BLK. 43, H&TC SUR.			SEC. 811, BLK. 43, H&TC SUR.		
OWNER.....	MAXUS EXPLORATION CO.		MAXUS EXPLORATION CO.			MAXUS EXPLORATION CO.		
COMPLETED.....	94/03/22		94/05/11			94/01/06		
SAMPLED.....	94/05/26		94/07/07			94/09/02		
FORMATION.....	PENN-CLEVELAND		PENN-CLEVELAND			PENN-TONKAWA		
GEOLOGIC PROVINCE CODE...	360		360			360		
DEPTH, FEET.....	7530		7590			6450		
WELLHEAD PRESSURE, PSIG...	1432		1990			1790		
OPEN FLOW, MCFD.....	10400		7800			3800		
COMPONENT, MOLE PCT								
METHANE.....	89.7 -----		86.5 -----			88.9 -----		
ETHANE.....	5.7 -----		6.9 -----			6.0 -----		
PROPANE.....	2.1 -----		3.3 -----			2.3 -----		
N-BUTANE.....	0.0 -----		1.1 -----			0.7 -----		
ISOBUTANE.....	0.6 -----		0.3 -----			0.2 -----		
N-PENTANE.....	0.4 -----		0.3 -----			0.2 -----		
ISOPENTANE.....	0.0 -----		0.1 -----			0.1 -----		
CYCLOPENTANE.....	0.0 -----		0.1 -----			0.0 -----		
HEXANES PLUS.....	0.1 -----		0.2 -----			0.1 -----		
NITROGEN.....	0.7 -----		0.8 -----			1.1 -----		
OXYGEN.....	0.1 -----		0.0 -----			0.2 -----		
ARGON.....	TRACE		TRACE			TRACE		
HYDROGEN.....	TRACE -----		TRACE -----			TRACE -----		
HYDROGEN SULFIDE**.....	0.0 -----		0.0 -----			0.0 -----		
CARBON DIOXIDE.....	0.6 -----		0.4 -----			0.2 -----		
HELIUM.....	0.05 -----		0.08 -----			0.08 -----		
HEATING VALUE*.....	1107 -----		1162 -----			1117 -----		
SPECIFIC GRAVITY.....	0.632		0.663			0.636		

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 106 SAMPLE 19832	INDEX 107 SAMPLE 19854	INDEX 108 SAMPLE 19748
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	LIPSCOMB	LIPSCOMB	LIPSCOMB
FIELD.....	BRADFORD	BRADFORD SE	FOLLETT
WELL NAME.....	BRADFORD C NO. 4	OLA NO. 1	LARKEY NO. 2
API.....	42-295-32148	42-295-31986	42-295-32133
LOCATION.....	SEC. 723, BLK. 43, H&TC SUR.	SEC. 776, BLK. 43, H&TC SUR	SEC.125, BLK.2., G. E. LARKEY
OWNER.....	MAXUS EXPLORATION CO.	MEDALLION PETROLEUM, INC.	REDSTONE OIL & GAS CO.
COMPLETED.....	94/04/21	93/11/06	93/12/04
SAMPLED.....	94/10/07	95/01/20	94/04/07
FORMATION.....	PENN-NORROW L	PENN-ATOKA	PENN-NORROW
GEOLOGIC PROVINCE CODE...	360	360	360
DEPTH, FEET.....	9660	8754	8750
WELLHEAD PRESSURE, PSIG...	1188	1491	1500
OPEN FLOW, MCFD.....	3300	12800	1050
COMPONENT, MOLE PCT			
METHANE.....	95.0 -----	85.4 -----	92.6 -----
ETHANE.....	2.5 -----	8.4 -----	3.6 -----
PROPANE.....	0.7 -----	3.1 -----	1.4 -----
N-BUTANE.....	0.2 -----	1.3 -----	0.4 -----
ISOBUTANE.....	0.0 -----	0.2 -----	0.1 -----
N-PENTANE.....	0.1 -----	0.4 -----	0.1 -----
ISOPENTANE.....	0.0 -----	0.2 -----	0.1 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.1 -----	0.1 -----	0.1 -----
NITROGEN.....	0.3 -----	0.5 -----	0.4 -----
OXYGEN.....	0.0 -----	0.0 -----	0.1 -----
ARGON.....	TRACE	TRACE	TRACE
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	1.1 -----	0.4 -----	1.0 -----
HELIUM.....	0.06 -----	0.05 -----	0.05 -----
HEATING VALUE*.....	1040 -----	1176 -----	1072 -----
SPECIFIC GRAVITY.....	0.592	0.670	0.613

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 109 SAMPLE 19753			INDEX 110 SAMPLE 19750			INDEX 111 SAMPLE 19722		
STATE.....	TEXAS		TEXAS			TEXAS		
COUNTY.....	MADISON		MOORE			MOORE		
FIELD.....	MADISONVILLE		CHANNING E			PANHANDLE W		
WELL NAME.....	J. W. MATHIS NO. 2		GASSER NO. 3			STATE NO. 503B		
API.....	43-313-30710		42-341-32313			42-341-32236		
LOCATION.....	ARTER CROWNOVER SUR., A-13		SEC. 3, BLK. 2, G&M SUR.			SEC. 53, BLK. 47, H&TC SUR.		
OWNER.....	PARTEN OIL CO.		PHILLIPS PETROLEUM CO.			ANADARKO PETROLEUM CORP.		
COMPLETED.....	94/09/10		93/11/29			93/12/03		
SAMPLED.....	94/04/05		94/03/29			94/02/18		
FORMATION.....	CRET-SUB CLARKSVILLE		PERM-RED CAVE			PERM-BROWN DOLOMITE		
GEOLOGIC PROVINCE CODE...	220		440			440		
DEPTH, FEET.....	8239		2464			2600		
WELLHEAD PRESSURE, PSIG...	1050		650			16		
OPEN FLOW, MCFD.....	800		1500			2700		
COMPONENT, MOLE PCT								
METHANE.....	83.5	-----	76.9	-----		68.2	-----	
ETHANE.....	8.2		4.1			7.9		
PROPANE.....	2.9	-----	3.2	-----		7.7	-----	
N-BUTANE.....	0.9		0.9			3.9		
ISOBUTANE.....	0.5	-----	0.4	-----		1.5	-----	
N-PENTANE.....	0.3		0.3			1.2		
ISOPENTANE.....	0.3	-----	0.1	-----		0.9	-----	
CYCLOPENTANE.....	0.0		0.1			0.2		
HEXANES PLUS.....	0.2	-----	0.1	-----		0.6	-----	
NITROGEN.....	1.0		13.5			7.2		
OXYGEN.....	0.0	-----	0.0	-----		0.0	-----	
ARGON.....	TRACE		0.0			0.0		
HYDROGEN.....	TRACE	-----	0.0	-----		TRACE	-----	
HYDROGEN SULFIDE**.....	0.0		0.0			0.0		
CARBON DIOXIDE.....	2.3	-----	0.1	-----		0.4	-----	
HELIUM.....	0.01		0.43			0.35		
HEATING VALUE*.....	1148	-----	1000	-----		1341	-----	
SPECIFIC GRAVITY.....	0.687		0.691			0.843		

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 112  
SAMPLE 19814

INDEX 113  
SAMPLE 19816

INDEX 114  
SAMPLE 19775

STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	MOORE	NEWTON	NOLAN
FIELD.....	PANHANDLE W	BROOKELAND	LAKE TRAMMEL S
WELL NAME.....	MASTERTSON NO. B-107	DONNER NO. 1	HARRIS RAILROAD UNIT NO. 2
API.....	42-341-32315	42-351-30561	
LOCATION.....	SEC. 45, BLK. 3, G&M SUR.	LUTCHER & MOORE SUR. 76, A-115	SEC. 95, BLK. X, T&P SUR., A-4
OWNER.....	MESA OPERATING CO.	UNION PACIFIC RESOURCES CO.	TUCKER DRILLING CO.
COMPLETED.....	94/02/21	93/05/07	93/02/23
SAMPLED.....	94/08/15	94/08/15	94/05/24
FORMATION.....	PERM-BROWN DOLOMITE	CRET-AUSTIN CHALK	PENN-CANYON
GEOLOGIC PROVINCE CODE...	440	220	430
DEPTH, FEET.....	1697	10393	5041
WELLHEAD PRESSURE, PSIG...	24	3540	225
OPEN FLOW, MCFD.....	1286	25600	15
COMPONENT, MOLE PCT			
METHANE.....	67.1 -----	80.9 -----	65.4 -----
ETHANE.....	7.6 -----	8.6 -----	10.0 -----
PROPANE.....	7.7 -----	2.6 -----	9.4 -----
N-BUTANE.....	4.2 -----	0.7 -----	3.0 -----
ISOBUTANE.....	1.5 -----	0.5 -----	1.5 -----
N-PENTANE.....	1.7 -----	0.2 -----	0.8 -----
ISOPENTANE.....	1.0 -----	0.1 -----	0.6 -----
CYCLOPENTANE.....	0.4 -----	0.0 -----	0.2 -----
HEXANES PLUS.....	1.1 -----	0.1 -----	0.5 -----
NITROGEN.....	7.0 -----	1.2 -----	8.2 -----
OXYGEN.....	0.0 -----	0.4 -----	0.0 -----
ARGON.....	0.0 -----	0.0 -----	TRACE
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.4 -----	4.7 -----	0.2 -----
HELIUM.....	0.37 -----	0.01 -----	0.11 -----
HEATING VALUE*.....	1392 -----	1099 -----	1334 -----
SPECIFIC GRAVITY.....	0.872 -----	0.703 -----	0.846 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H<sub>2</sub>S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 115 SAMPLE 19780	INDEX 116 SAMPLE 19803	INDEX 117 SAMPLE 19808
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	OCHILTREE	OCHILTREE	OCHILTREE
FIELD.....	ELLIS RANCH	LIPS W	LIPS W
WELL NAME.....	ROY LINN NO. C-4	AUSTIN UNIT NO. 3	LIPS RANCH B UNIT 15 NO. 35
API.....	42-357-32051	42-357-32041	42-357-32042
LOCATION.....	SEC. 654, BLK. 43, H&TC SUR.	SEC. 47, BLK. 4, AB&M SUR.	SEC. 50, BLK. R, AB&M SUR., A-
OWNER.....	MAZUS EXPLORATION CO.	AMOCO PRODUCTION CO.	AMOCO PRODUCTION CO.
COMPLETED.....	94/03/30	93/11/29	94/01/05
SAMPLED.....	94/05/26	94/07/08	94/07/13
FORMATION.....	PENN-CLEVELAND	PENN-CLEVELAND	PENN-CLEVELAND
GEOLOGIC PROVINCE CODE...	360	360	360
DEPTH, FEET.....	7216	6584	6690
WELLHEAD PRESSURE, PSIG...	847	712	1032
OPEN FLOW, MCFD.....	2275	1350	1720
COMPONENT, MOLE PCT			
METHANE.....	82.2 -----	82.2 -----	82.7 -----
ETHANE.....	6.8 -----	9.0 -----	9.1 -----
PROPANE.....	5.2 -----	4.8 -----	4.5 -----
N-BUTANE.....	1.7 -----	1.5 -----	1.3 -----
ISOBUTANE.....	0.9 -----	0.4 -----	0.3 -----
N-PENTANE.....	0.1 -----	0.5 -----	0.4 -----
ISOPENTANE.....	0.5 -----	0.2 -----	0.2 -----
CYCLOPENTANE.....	0.1 -----	0.1 -----	0.1 -----
HEXANES PLUS.....	0.1 -----	0.2 -----	0.2 -----
NITROGEN.....	1.7 -----	0.8 -----	0.9 -----
OXYGEN.....	0.0 -----	0.0 -----	TRACE -----
ARGON.....	TRACE -----	0.0 -----	0.0 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.6 -----	0.3 -----	0.3 -----
HELIUM.....	0.13 -----	0.08 -----	0.08 -----
HEATING VALUE*.....	1208 -----	1224 -----	1210 -----
SPECIFIC GRAVITY.....	0.707	0.701	0.692

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 118 SAMPLE 19757	INDEX 119 SAMPLE 19809	INDEX 120 SAMPLE 19870
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	OCHILTREE	PALO PINTO	PECOS
FIELD.....	TURNER E	PALO PINTO REGULAR	SADDLE BUTTE W
WELL NAME.....	DIXIE NO. 2-390	BIG HART NO. 1	UNIVERSITY 17 NO. 2-T
API.....	42-357-32038	42-363-34200	42-371-36499
LOCATION.....	SEC. 390, BLK. 43, H&TC SUR.	TE&L NO. 877 SUR., A-453	SEC. 17, ELK. 26, UNIVERSITY L
OWNER.....	NATURAL GAS ANADARKO CO.	RIFE OIL PROPERTIES, INC.	MARATHON OIL CO.
COMPLETED.....	93/12/01	93/12/05	95/01/18
SAMPLED.....	94/04/22	94/07/26	95/05/02
FORMATION.....	PENN-MORROW	PENN-STRAWN	PERM-WICHITA-ALBANY, GR WASH
GEOLOGIC PROVINCE CODE...	360	425	430
DEPTH, FEET.....	9079	3110	4518
WELLHEAD PRESSURE, PSIG...	821	860	1590
OPEN FLOW, MCFD.....	1150	1100	5001
COMPONENT, MOLE PCT			
METHANE.....	84.1 -----	84.9 -----	93.9 -----
ETHANE.....	7.6 -----	3.5 -----	1.6 -----
PROPANE.....	4.8 -----	2.8 -----	0.4 -----
N-BUTANE.....	0.0 -----	0.9 -----	0.1 -----
ISOBUTANE.....	1.6 -----	0.6 -----	0.0 -----
N-PENTANE.....	0.6 -----	0.3 -----	0.0 -----
ISOPENTANE.....	0.0 -----	0.1 -----	0.1 -----
CYCLOPENTANE.....	0.1 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.2 -----	0.2 -----	0.0 -----
NITROGEN.....	0.5 -----	6.2 -----	3.2 -----
OXYGEN.....	0.0 -----	0.1 -----	0.4 -----
ARGON.....	0.0 -----	0.0 -----	0.0 -----
HYDROGEN.....	TRACE -----	0.0 -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.3 -----	0.2 -----	0.2 -----
HELIUM.....	0.06 -----	0.24 -----	0.09 -----
HEATING VALUE*.....	1208 -----	1074 -----	997 -----
SPECIFIC GRAVITY.....	0.688	0.662	0.586

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE



TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 121 SAMPLE 19871		INDEX 122 SAMPLE 19882		INDEX 123 SAMPLE 19741	
STATE.....	TEXAS	TEXAS		TEXAS	
COUNTY.....	PECOS	REEVES		REFUGIO	
FIELD.....	SADDLE BUTTE W	GREASEWOOD		ROCHE	
WELL NAME.....	UNIVERSITY 17 NO. 2	TYL NO. 19-1		K. D. ROCHE NO. 27	
API.....	42-371-36499	42-389-30476		42-391-03175	
LOCATION.....	SEC. 17, BLK. 26, UNIVERSITY L	SEC. 19, BLK. 54, T-4-S T&T SU		JOHN M. SWISHER SUR., A-377	
OWNER.....	MARATHON OIL CO.	HELMERICH & PAYNE, INC.		H & D OPERATING CO.	
COMPLETED.....	95/01/18	95/05/31		93/12/09	
SAMPLED.....	95/05/02	95/09/13		94/03/24	
FORMATION.....	PERM-WICHITA-ALBANY,GR WASH	PENN-ATOKA		OLIG-PRIO	
GEOLOGIC PROVINCE CODE...	430	430		220	
DEPTH, FEET.....	4518	16994		6452	
WELLHEAD PRESSURE,PSIG...	1590	NOT GIVEN		2094	
OPEN FLOW, MCFD.....	5001	NOT GIVEN		5700	
COMPONENT, MOLE PCT					
METHANE.....	92.6 -----	96.2 -----		90.2 -----	
ETHANE.....	3.1 -----	0.5 -----		5.0 -----	
PROPANE.....	1.1 -----	0.0 -----		2.2 -----	
N-BUTANE.....	0.4 -----	0.1 -----		0.8 -----	
ISOBUTANE.....	0.1 -----	0.0 -----		0.6 -----	
N-PENTANE.....	0.1 -----	0.0 -----		0.3 -----	
ISOPENTANE.....	0.0 -----	0.1 -----		0.2 -----	
CYCLOPENTANE.....	0.0 -----	0.0 -----		0.1 -----	
HEXANES PLUS.....	0.1 -----	0.0 -----		0.2 -----	
NITROGEN.....	1.7 -----	0.2 -----		0.3 -----	
OXYGEN.....	0.0 -----	0.0 -----		TRACE -----	
ARGON.....	0.0 -----	0.0 -----		TRACE -----	
HYDROGEN.....	TRACE -----	TRACE -----		0.1 -----	
HYDROGEN SULFIDE**.....	0.7 -----	0.0 -----		0.0 -----	
CARBON DIOXIDE.....	0.1 -----	2.9 -----		0.1 -----	
HELIUM.....	0.06 -----	0.01 -----		TRACE -----	
HEATING VALUE*.....	1049 -----	992 -----		1142 -----	
SPECIFIC GRAVITY.....	0.603	0.590		0.640	

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 124 SAMPLE 19806		INDEX 125 SAMPLE 19736		INDEX 126 SAMPLE 19837
STATE.....	TEXAS		TEXAS		TEXAS
COUNTY.....	ROBERTS		ROBERTS		ROBERTS
FIELD.....	HANSFORD		MENDOTA NW		ST. CLAIR
WELL NAME.....	LIPS RANCH B UNIT 4 NO. 33-L		FLOWERS C NO. 4-6		MCHORDIE NO. 3-86
API.....	42-393-31198		42-393-31196		42-393-31212
LOCATION.....	SEC. 32, BLK. A, H&GN SUR.		SEC. 6, BS&F SUR.		BLK. C, GUNN&MUNSON SUR., A-86
OWNER.....	AMOCO PRODUCTION CO.		SEAGULL MIDCON, INC.		MAXUS EXPLORATION CO.
COMPLETED.....	94/01/04		93/--/00		94/04/22
SAMPLED.....	94/07/15		94/03/03		94/10/25
FORMATION.....	PENN-MORROW		PENN-GRANITE WASH		PENN-GRANITE WASH
GEOLOGIC PROVINCE CODE...	360		360		360
DEPTH, FEET.....	8482		9720		9403
WELLHEAD PRESSURE, PSIG...	10		2151		1320
OPEN FLOW, MCFD.....	1350		5279		32000
COMPONENT, MOLE PCT					
METHANE.....	90.1 -----		78.7 -----		75.4 -----
ETHANE.....	4.3 -----		11.5 -----		12.6 -----
PROPANE.....	2.2 -----		5.2 -----		6.5 -----
N-BUTANE.....	0.9 -----		1.6 -----		2.0 -----
ISOBUTANE.....	0.3 -----		0.5 -----		0.6 -----
N-PENTANE.....	0.3 -----		0.5 -----		0.5 -----
ISOPENTANE.....	0.2 -----		0.3 -----		0.3 -----
CYCLOPENTANE.....	0.1 -----		0.1 -----		0.1 -----
HEXANES PLUS.....	0.2 -----		0.3 -----		0.3 -----
NITROGEN.....	0.8 -----		0.8 -----		1.1 -----
OXYGEN.....	TRACE -----		0.0 -----		TRACE -----
ARGON.....	TRACE -----		TRACE -----		TRACE -----
HYDROGEN.....	TRACE -----		TRACE -----		TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----		0.0 -----		0.0 -----
CARBON DIOXIDE.....	0.5 -----		0.6 -----		0.5 -----
HELIUM.....	0.10 -----		0.05 -----		0.05 -----
HEATING VALUE*.....	1118 -----		1255 -----		1299 -----
SPECIFIC GRAVITY.....	0.639		0.726		0.755

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 127 SAMPLE 19723			INDEX 128 SAMPLE 19721			INDEX 129 SAMPLE 19861		
STATE.....	TEXAS		TEXAS			TEXAS		
COUNTY.....	SCHLEICHER		SHERMAN			SHERMAN		
FIELD.....	POZO RICO		CUMBERLAND			TEXHOMA		
WELL NAME.....	BROOKS NO. 11-3		CLUCK D NO. 3			HAMILTON NO. 2-103		
API.....	42-413-31914		42-421-30554			42-421-30569		
LOCATION.....	SEC. 11, BLK. TT, TCRR SUR., A		SEC. 113, BLK. 1-C, GH&H SUR.			SEC. 103, BLK. 1-C, GH&H SUR.		
OWNER.....	SWIFT ENERGY CO.		TEXACO EXPLOR. & PRODUCTION, I			COURSON OIL & GAS, INC.		
COMPLETED.....	92/12/23		93/11/17			95/01/27		
SAMPLED.....	94/02/17		94/02/16			95/03/31		
FORMATION.....	PERM-WOLPCAMP		PENN-MORROW			PENN-DES MOINES		
GEOLOGIC PROVINCE CODE...	430		360			360		
DEPTH, FEET.....	4982		6406			5780		
WELLHEAD PRESSURE, PSIG...	200		1544			1630		
OPEN FLOW, MCFD.....	90		16000			10300		
COMPONENT, MOLE PCT								
METHANE.....	70.7	-----	81.4	-----		78.5	-----	
ETHANE.....	10.7		7.6			9.1		
PROPANE.....	8.6	-----	3.9	-----		4.6	-----	
N-BUTANE.....	2.3		1.2			1.1		
ISOBUTANE.....	0.8	-----	0.3	-----		0.2	-----	
N-PENTANE.....	0.6		0.3			0.2		
ISOPENTANE.....	0.5	-----	0.2	-----		0.1	-----	
CYCLOPENTANE.....	0.1		0.0			0.0		
HEXANES PLUS.....	0.3	-----	0.2	-----		0.1	-----	
NITROGEN.....	4.9		4.4			5.8		
OXYGEN.....	0.0	-----	0.0	-----		0.0	-----	
ARGON.....	TRACE		TRACE			0.0		
HYDROGEN.....	TRACE	-----	TRACE	-----		0.0	-----	
HYDROGEN SULFIDE**.....	0.0		0.0			0.0		
CARBON DIOXIDE.....	0.4	-----	0.1	-----		0.1	-----	
HELIUM.....	0.09		0.17			0.18		
HEATING VALUE*.....	1302	-----	1147	-----		1133	-----	
SPECIFIC GRAVITY.....	0.795		0.689			0.695		

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 130 SAMPLE 19877	INDEX 131 SAMPLE 19732	INDEX 132 SAMPLE 19887
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	STERLING	TERRELL	TERRELL
FIELD.....	CONGER	PAKENHAM	PAKENHAM
WELL NAME.....	E.E. BARBEE JR. NO. 5	MITCHELL 87 NO. 1	ANNA MCCLUNG 1 NO. 3
API.....	42-431-32786	42-443-30392	42-443-30463
LOCATION.....	SEC. 4, F.A. BROOKS SUR., A-43	SEC. 87, BLK. 1, TC&RR SUR.	MRS. ANNA MCCLUNG NO. 1 SUR.
OWNER.....	TEXACO INC.	ENRON OIL & GAS CO.	CONOCO, INC.
COMPLETED.....	95/04/27	93/11/19	94/11/21
SAMPLED.....	95/08/22	94/03/09	95/11/02
FORMATION.....	PENN-CONGER	PERM-WOLFCAMP	PENN-STRAWN
GEOLOGIC PROVINCE CODE...	430	430	430
DEPTH, FEET.....	7661	7781	10994
WELLHEAD PRESSURE, PSIG...	1632	2875	5049
OPEN FLOW, MCPD.....	8078	13362	28000
COMPONENT, MOLE PCT			
METHANE.....	74.2 -----	91.1 -----	86.0 -----
ETHANE.....	10.4 -----	4.3 -----	8.0 -----
PROPANE.....	7.6 -----	2.1 -----	3.4 -----
N-BUTANE.....	1.9 -----	0.6 -----	0.8 -----
ISOBUTANE.....	0.7 -----	0.2 -----	0.5 -----
N-PENTANE.....	0.5 -----	0.2 -----	0.2 -----
ISOPENTANE.....	0.3 -----	0.1 -----	0.2 -----
CYCLOPENTANE.....	0.0 -----	0.1 -----	0.0 -----
HEXANES PLUS.....	0.1 -----	0.2 -----	0.0 -----
NITROGEN.....	3.8 -----	0.7 -----	0.5 -----
OXYGEN.....	0.0 -----	0.0 -----	0.0 -----
ARGON.....	TRACE	TRACE	0.0
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.4 -----	0.5 -----	0.3 -----
HELIUM.....	0.09 -----	0.05 -----	0.03 -----
HEATING VALUE*.....	1262 -----	1103 -----	1164 -----
SPECIFIC GRAVITY.....	0.759	0.626	0.660

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 133 SAMPLE 19876	INDEX 134 SAMPLE 19825	INDEX 135 SAMPLE 19792
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	TERRELL	THROCKMORTON	WEBB
FIELD.....	PARK S	JON BEAR	CARR
WELL NAME.....	CULBERTSON STATE 16 NO. 1	KELLY RANCH "E" NO. 1	J. E. CARR NO. 1
API.....	42-443-30484	42-447-35201	42-479-35907
LOCATION.....	SEC. 16,BLK 2,CCSD&RGNG SUR, A	BLK. 31,COMANCHE IND.RES.SUR.A	TC SUR. 1635, A-1797
OWNER.....	CONOCO, INC.	BURK ROYALTY CO.	CONOCO, INC.
COMPLETED.....	95/01/11	93/--/00	93/11/29
SAMPLED.....	95/08/02	94/09/22	94/06/22
FORMATION.....	PENN-SAND	PENN-BEND CONGLOMERATE	ROCK-LOBO 6
GEOLOGIC PROVINCE CODE...	430	425	220
DEPTH, FEET.....	10848	4478	8954
WELLHEAD PRESSURE,PSIG...	4883	1865	2846
OPEN FLOW, MCFD.....	21250	1648	4821
COMPONENT, MOLE PCT			
METHANE.....	87.1 -----	71.8 -----	90.7 -----
ETHANE.....	7.5 -----	9.1 -----	4.6 -----
PROPANE.....	3.1 -----	3.6 -----	1.7 -----
N-BUTANE.....	0.8 -----	1.2 -----	0.4 -----
ISOBUTANE.....	0.3 -----	0.3 -----	0.3 -----
N-PENTANE.....	0.2 -----	0.4 -----	0.2 -----
ISOPENTANE.....	0.1 -----	0.2 -----	0.0 -----
CYCLOPENTANE.....	0.0 -----	0.1 -----	0.1 -----
HEXANES PLUS.....	0.1 -----	0.2 -----	0.2 -----
NITROGEN.....	0.4 -----	9.2 -----	0.1 -----
OXYGEN.....	0.0 -----	0.1 -----	0.0 -----
ARGON.....	0.0 -----	0.0 -----	TRACE
HYDROGEN.....	TRACE -----	0.0 -----	TRACE
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.3 -----	3.6 -----	1.6 -----
HELIUM.....	0.02 -----	0.24 -----	TRACE
HEATING VALUE*.....	1153 -----	1076 -----	1094 -----
SPECIFIC GRAVITY.....	0.653	0.750	0.633

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 136 SAMPLE 19858			INDEX 137 SAMPLE 19727			INDEX 138 SAMPLE 19699		
STATE.....	TEXAS		TEXAS			TEXAS		
COUNTY.....	WEBB		WEBB			WEBB		
FIELD.....	CUBA LIBRE		EL CABALLERO			LA ROSITA		
WELL NAME.....	LAUREL A NO. 3		S. H. WILLIAMSON NO. 8			BRUNI MINERAL C NO. 13		
API.....	42-479-36064		42-479-35930			42-479-35919		
LOCATION.....	AMADO S. LAUREL SUR., A-2631		BS&F SUR. 539, A-1984			JOSE VASQUEZ BORREGO GRANT, A-		
OWNER.....	ESENJAY PETROLEUM CORP.		ENRON OIL & GAS CO.			ENRON OIL & GAS CO.		
COMPLETED.....	94/10/07		93/11/09			93/10/18		
SAMPLED.....	95/03/01		94/02/17			93/12/27		
FORMATION.....	EOCE-HINNANT 3RD		EOCE-LOBO			EOCE-LOBO		
GEOLOGIC PROVINCE CODE...	220		220			220		
DEPTH, FEET.....	8579		7624			9958		
WELLHEAD PRESSURE, PSIG...	5065		3740			4657		
OPEN FLOW, MCFD.....	2831		2057			3775		
COMPONENT, MOLE PCT								
METHANE.....	81.7	-----	93.1	-----		93.2	-----	
ETHANE.....	8.4		3.5			3.6		
PROPANE.....	4.8	-----	1.3	-----		0.7	-----	
N-BUTANE.....	1.3		0.4			0.2		
ISOBUTANE.....	0.8	-----	0.2	-----		0.0	-----	
N-PENTANE.....	0.2		0.1			0.1		
ISOPENTANE.....	0.2	-----	0.1	-----		0.0	-----	
CYCLOPENTANE.....	0.0		0.0			0.0		
HEXANES PLUS.....	0.1	-----	0.1	-----		0.1	-----	
NITROGEN.....	0.1		0.2			0.1		
OXYGEN.....	0.0	-----	0.0	-----		0.0	-----	
ARGON.....	TRACE		TRACE			TRACE		
HYDROGEN.....	TRACE	-----	0.0	-----		TRACE	-----	
HYDROGEN SULFIDE**.....	0.0		0.0			0.0		
CARBON DIOXIDE.....	2.4	-----	0.9	-----		2.0	-----	
HELIUM.....	TRACE		TRACE			TRACE		
HEATING VALUE*.....	1194	-----	1074	-----		1043	-----	
SPECIFIC GRAVITY.....	0.709		0.610			0.607		

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 139 SAMPLE 19766			INDEX 140 SAMPLE 19696			INDEX 141 SAMPLE 19328		
STATE.....	TEXAS		TEXAS			TEXAS		
COUNTY.....	WEBB		WHARTON			WHEELER		
FIELD.....	MUJERES CREEK		ALWAN W			BRITT RANCH		
WELL NAME.....	EL GATO NO. 22		HUTCHINS PEARSON ESTATE NO.2			BRITT CALDWELL NO. 1		
API.....	42-479-35643		42-481-33620			42-483-30808		
LOCATION.....	TTRR SUR. 1953, A-1817		W. J. WICKHAM SUR., A-356			WHEELER 15 SA-3		
OWNER.....	TEXACO EXPLOR. & PRODUCTION, I		CONOCO, INC.			PETRO-HUNT CORP.		
COMPLETED.....	92/12/18		93/05/21			81/11/25		
SAMPLED.....	94/05/05		93/12/16			92/02/26		
FORMATION.....	EOCE-LOBO		OLIG-FRIO			PENN-DES MOINES		
GEOLOGIC PROVINCE CODE...	220		220			360		
DEPTH, FEET.....	8798		4601			12348		
WELLHEAD PRESSURE, PSIG...	3350		1489			2300		
OPEN FLOW, MCFD.....	2200		9788			900		
COMPONENT, MOLE PCT								
METHANE.....	85.4	-----	98.6	-----		81.1	-----	
ETHANE.....	7.3		0.8			9.9		
PROPANE.....	3.5	-----	0.1	-----		2.9	-----	
N-BUTANE.....	0.0		0.0			0.9		
ISOBUTANE.....	1.4	-----	TRACE	-----		0.7	-----	
N-PENTANE.....	0.5		0.0			0.6		
ISOPENTANE.....	0.0	-----	0.0	-----		0.0	-----	
CYCLOPENTANE.....	0.0		0.0			0.2		
HEXANES PLUS.....	0.1	-----	0.1	-----		0.6	-----	
NITROGEN.....	0.6		0.2			2.0		
OXYGEN.....	0.2	-----	0.0	-----		0.8	-----	
ARGON.....	TRACE		TRACE			0.0		
HYDROGEN.....	TRACE	-----	TRACE	-----		TRACE	-----	
HYDROGEN SULFIDE**.....	0.0		0.0			0.0		
CARBON DIOXIDE.....	1.0	-----	0.2	-----		0.2	-----	
HELIUM.....	TRACE		TRACE			0.04		
HEATING VALUE*.....	1161	-----	1020	-----		1195	-----	
SPECIFIC GRAVITY.....	0.672		0.564			0.702		

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE



TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 142 SAMPLE 19878			INDEX 143 SAMPLE 19767			INDEX 144 SAMPLE 19745		
STATE.....	TEXAS		TEXAS			TEXAS		
COUNTY.....	WHEELER		WHEELER			WISE		
FIELD.....	CANDICE		MO-TEX			FLETCHER		
WELL NAME.....	HORN NO. 1-8		HOGAN NO. 1			CRAWFORD NO. 1		
API.....	42-483-31467		42-483-31447			42-497-33834		
LOCATION.....	SEC. 8, BLK. A-2, H&GN SUR.		SEC. 23, BLK. A-5, H&GN SUR.			J. P. CAIN SUR., A-1066		
OWNER.....	SIDWELL OIL & GAS, INC.		CAMBRIDGE PRODUCTION, INC.			BRISTOL RESOURCES CORP.		
COMPLETED.....	95/02/09		94/01/24			94/01/01		
SAMPLED.....	95/08/29		94/05/05			94/03/24		
FORMATION.....	PENN-MORROW		DEVO-HUNTON, WOODFORD			PENN-ATOKA CONGLOMERATE		
GEOLOGIC PROVINCE CODE...	360		360			420		
DEPTH, FEET.....	12091		12730			6800		
WELLHEAD PRESSURE, PSIG...	3768		2600			600		
OPEN FLOW, MCFD.....	12000		2100			1200		
COMPONENT, MOLE PCT								
METHANE.....	93.9	-----	86.6	-----		74.8	-----	
ETHANE.....	3.3		5.3			10.3		
PROPANE.....	1.1	-----	3.6	-----		7.5	-----	
N-BUTANE.....	0.3		1.4			1.9		
ISOBUTANE.....	0.1	-----	0.6	-----		1.1	-----	
N-PENTANE.....	0.1		0.2			0.5		
ISOPENTANE.....	0.1	-----	0.3	-----		0.4	-----	
CYCLOPENTANE.....	0.0		0.1			0.1		
HEXANES PLUS.....	0.0	-----	0.1	-----		0.3	-----	
NITROGEN.....	0.4		0.5			2.4		
OXYGEN.....	TRACE	-----	0.0	-----		0.0	-----	
ARGON.....	TRACE		TRACE			0.0		
HYDROGEN.....	TRACE	-----	TRACE	-----		TRACE	-----	
HYDROGEN SULFIDE**.....	0.0		0.0			0.0		
CARBON DIOXIDE.....	0.8	-----	1.4	-----		0.7	-----	
HELIUM.....	0.03		0.02			0.09		
HEATING VALUE*.....	1056	-----	1160	-----		1293	-----	
SPECIFIC GRAVITY.....	0.599		0.675			0.768		

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 145 SAMPLE 19786		INDEX 146 SAMPLE 19841		INDEX 147 SAMPLE 19793
STATE.....	TEXAS		TEXAS		TEXAS
COUNTY.....	WISE		ZAPATA		ZAPATA
FIELD.....	NEWARK E		AGARITO		HUNDIDO
WELL NAME.....	R. L. TITCH NO. 3		MARTINEZ NO. 4		J. G. RATHMELL NO. 10
API.....	42-497-33832				42-505-33044
LOCATION.....	BLK. 51, SMITH CSL SUR.		ONE MI. S US 83, NEAR WEBB CO		J. V. BORREGO GRANT, A-209
OWNER.....	MITCHELL ENERGY & DEVELOPMENT		COLUMBUS ENERGY CORP.		CONOCO, INC.
COMPLETED.....	94/02/02		93/07/10		93/10/04
SAMPLED.....	94/06/17		94/11/19		94/06/22
FORMATION.....	MISS-BARNETT SHALE		EOCE-LOBO		EOCE-SAND
GEOLOGIC PROVINCE CODE...	420		220		220
DEPTH, FEET.....	7764		7373		9292
WELLHEAD PRESSURE, PSIG...	3275		4040		5500
OPEN FLOW, MCFD.....	8200		3200.		7197
COMPONENT, MOLE PCT					
METHANE.....	84.5 -----		90.3 -----		95.0 -----
ETHANE.....	9.6 -----		5.7 -----		2.0 -----
PROPANE.....	2.6 -----		1.5 -----		0.3 -----
N-BUTANE.....	0.6 -----		0.4 -----		0.1 -----
ISOBUTANE.....	0.4 -----		0.3 -----		0.1 -----
N-PENTANE.....	0.2 -----		0.3 -----		0.0 -----
ISOPENTANE.....	0.2 -----		0.0 -----		0.1 -----
CYCLOPENTANE.....	0.0 -----		0.1 -----		0.0 -----
HEXANES PLUS.....	0.1 -----		0.3 -----		0.0 -----
NITROGEN.....	0.6 -----		0.1 -----		0.1 -----
OXYGEN.....	0.0 -----		0.0 -----		0.0 -----
ARGON.....	TRACE		TRACE		TRACE
HYDROGEN.....	TRACE -----		TRACE -----		TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----		0.0 -----		0.0 -----
CARBON DIOXIDE.....	1.2 -----		1.1 -----		2.4 -----
HELIUM.....	0.03 -----		TRACE		TRACE
HEATING VALUE*.....	1148 -----		1107 -----		1013 -----
SPECIFIC GRAVITY.....	0.666		0.633		0.594

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 148 SAMPLE 19853			INDEX 149 SAMPLE 19789			INDEX 150 SAMPLE 19734		
STATE.....	TEXAS		TEXAS			UTAH		
COUNTY.....	ZAPATA		ZAVALA			GRAND		
FIELD.....	VOLPE		NIKOMA			BAR X		
WELL NAME.....	SALVADOR GARCIA G NO. 24		MILBY NO. 1A			FEDERAL NO. 9-10		
API.....	42-505-33231					43-019-31333		
LOCATION.....	ISABLE GONZALES NO. 28 SUR, A-		JOHN G. TODD G-380 SUR., A-870			SEC. 9, T17S, R25E		
OWNER.....	ENRON OIL & GAS CO.		SWIFT ENERGY CO.			LONE MOUNTAIN PRODUCTION CO.		
COMPLETED.....	94/10/16		92/--/00			93/09/19		
SAMPLED.....	95/01/15		94/06/09			93/03/00		
FORMATION.....	BOCE-WILCOX		CRET-SAN MIGUEL			JURA-MORRISON		
GEOLOGIC PROVINCE CODE...	220		220			585		
DEPTH, FEET.....	8238		2118			NOT GIVEN		
WELLHEAD PRESSURE, PSIG...	4036		577			NOT GIVEN		
OPEN FLOW, MCFD.....	3300		840			2100		
COMPONENT, MOLE PCT								
METHANE.....	93.3	-----	99.0	-----		88.8	-----	
ETHANE.....	3.5		0.1			3.5		
PROPANE.....	1.0	-----	0.1	-----		0.8	-----	
N-BUTANE.....	0.3		0.0			0.1		
ISOBUTANE.....	0.1	-----	TRACE	-----		0.2	-----	
N-PENTANE.....	0.1		0.0			0.0		
ISOPENTANE.....	0.1	-----	0.0	-----		0.1	-----	
CYCLOPENTANE.....	0.0		0.0			0.0		
HEXANES PLUS.....	0.1	-----	0.0	-----		0.0	-----	
NITROGEN.....	0.1		0.7			5.5		
OXYGEN.....	TRACE	-----	0.0	-----		0.0	-----	
ARGON.....	0.0		TRACE			0.1		
HYDROGEN.....	TRACE	-----	TRACE	-----		TRACE	-----	
HYDROGEN SULFIDE**.....	0.0		0.0			0.0		
CARBON DIOXIDE.....	1.4	-----	0.2	-----		0.8	-----	
HELIUM.....	TRACE		0.01			0.18		
HEATING VALUE*.....	1056	-----	1006	-----		996	-----	
SPECIFIC GRAVITY.....	0.607		0.560			0.617		

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 151 SAMPLE 19751			INDEX 152 SAMPLE 19752			INDEX 153 SAMPLE 19848		
STATE.....	UTAH		UTAH			WYOMING		
COUNTY.....	UINTAH		UINTAH			FREMONT		
FIELD.....	NATURAL BUTTES		NATURAL BUTTES			BEAVER CREEK		
WELL NAME.....	NATURAL COTTON NO. 13-20		CHAPITA WELLS 27N NO. 359			BEAVER CREEK UNIT NO. 140		
API.....	43-047-32429		43-047-32436			49-013-21406		
LOCATION.....	SEC. 20, T9S, R21E		SEC. 15, T9S, R22E			SEC. 10, T33N, R96W		
OWNER.....	ENRON OIL & GAS CO.		ENRON OIL & GAS CO.			AMOCO PRODUCTION CO.		
COMPLETED.....	94/12/08		94/02/02			93/11/29		
SAMPLED.....	94/04/09		94/04/09			94/12/00		
FORMATION.....	EOCE-GREEN RIVER		EOCE-WASATCH			CRET-FRONTIER, DAKOTA		
GEOLOGIC PROVINCE CODE...	575		575			530		
DEPTH, FEET.....	4800		5400			6980		
WELLHEAD PRESSURE, PSIG...	1550		1830			NOT GIVEN		
OPEN FLOW, MCFD.....	5000		4000			2300		
COMPONENT, MOLE PCT								
METHANE.....	92.6	-----	94.2	-----		91.7	-----	
ETHANE.....	4.2	-----	3.5	-----		4.6	-----	
PROPANE.....	1.6	-----	1.0	-----		1.8	-----	
N-BUTANE.....	0.4	-----	0.3	-----		0.6	-----	
ISOBUTANE.....	0.2	-----	0.1	-----		0.2	-----	
N-PENTANE.....	0.1	-----	0.1	-----		0.2	-----	
ISOPENTANE.....	0.2	-----	0.1	-----		0.1	-----	
CYCLOPENTANE.....	0.0	-----	0.0	-----		0.0	-----	
HEXANES PLUS.....	TRACE	-----	0.1	-----		0.1	-----	
NITROGEN.....	0.5	-----	0.4	-----		0.5	-----	
OXYGEN.....	0.0	-----	0.0	-----		0.0	-----	
ARGON.....	TRACE	-----	TRACE	-----		TRACE	-----	
HYDROGEN.....	TRACE	-----	TRACE	-----		TRACE	-----	
HYDROGEN SULFIDE**.....	0.0	-----	0.0	-----		0.0	-----	
CARBON DIOXIDE.....	0.1	-----	0.2	-----		0.3	-----	
HELIUM.....	0.02	-----	0.01	-----		0.01	-----	
HEATING VALUE*.....	1088	-----	1070	-----		1099	-----	
SPECIFIC GRAVITY.....	0.610		0.597			0.619		

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 154 SAMPLE 19713		INDEX 155 SAMPLE 19787		INDEX 156 SAMPLE 19826
STATE.....	WYOMING		WYOMING		WYOMING
COUNTY.....	LINCOLN		LINCOLN		PARK
FIELD.....	LA BARGE		WILSON RANCH		OREGON BASIN
WELL NAME.....	LA BARGE NO. 16		ALTROGGE FED. NO. 3-18		SAMUEL NO. 27
API.....	49-023-20964		49-023-21002		49-029-20318
LOCATION.....	SEC. 3, T26N, R113W		SEC. 18, T19N, R112W		SEC. 32, T51N, R100W
OWNER.....	TEXACO EXPLOR. & PRODUCTION, I		UNION PACIFIC RESOURCES CO.		MARATHON OIL CO.
COMPLETED.....	93/10/31		93/11/20		94/04/13
SAMPLED.....	94/01/24		94/06/14		94/09/21
FORMATION.....	CRET-FRONTIER		CRET-DAKOTA		TRIA-CHUGWATER
GEOLOGIC PROVINCE CODE...	535		535		520
DEPTH, FEET.....	5924		11918		2500
WELLHEAD PRESSURE, PSIG...	2100		3000		400
OPEN FLOW, MCFD.....	4262		1320		1000
COMPONENT, MOLE PCT					
METHANE.....	87.7 -----		84.0 -----		90.6 -----
ETHANE.....	5.7 -----		9.6 -----		4.3 -----
PROPANE.....	1.4 -----		3.0 -----		1.3 -----
N-BUTANE.....	0.5 -----		1.0 -----		0.4 -----
ISOBUTANE.....	0.1 -----		0.1 -----		0.2 -----
N-PENTANE.....	0.1 -----		0.0 -----		0.3 -----
ISOPENTANE.....	0.1 -----		0.5 -----		0.0 -----
CYCLOPENTANE.....	0.0 -----		0.0 -----		0.1 -----
HEXANES PLUS.....	0.1 -----		0.0 -----		0.2 -----
NITROGEN.....	3.5 -----		0.9 -----		2.5 -----
OXYGEN.....	0.6 -----		0.1 -----		0.0 -----
ARGON.....	0.0 -----		0.0 -----		TRACE -----
HYDROGEN.....	TRACE -----		TRACE -----		TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----		0.0 -----		0.0 -----
CARBON DIOXIDE.....	0.2 -----		0.8 -----		0.0 -----
HELIUM.....	0.03 -----		0.01 -----		0.08 -----
HEATING VALUE*.....	1058 -----		1161 -----		1072 -----
SPECIFIC GRAVITY.....	0.631		0.671		0.619

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

INDEX 157 SAMPLE 19842			INDEX 158 SAMPLE 19700			INDEX 159 SAMPLE 19840		
STATE.....	WYOMING		WYOMING			WYOMING		
COUNTY.....	SUBLETTE		SWEETWATER			SWEETWATER		
FIELD.....	RED HILL		HAYSTACK			WANSUTTER N		
WELL NAME.....	RED HILL NO. 2-18		POLAR BAR NO. 1			UPRC NO. 2-27		
API.....	49-035-21294		49-037-23037			49-037-23138		
LOCATION.....	SEC. 18, T27N, R112W		SEC. 22, T14N, R96W			SEC.27, T21N, R94W		
OWNER.....	ENRON OIL & GAS CO.		BASS ENTERPRISES PRODUCTION CO			DALEN RESOURCES OIL & GAS CO.		
COMPLETED.....	94/06/07		93/05/06			93/12/22		
SAMPLED.....	94/11/29		93/12/28			94/11/15		
FORMATION.....	CRET-FRONTIER		CRET-ALMOND			CRET-ALMOND		
GEOLOGIC PROVINCE CODE...	535		535			535		
DEPTH, FEET.....	6890		14064			10232		
WELLHEAD PRESSURE,PSIG...	450		8800			1100		
OPEN FLOW, MCFD.....	1962		NOT GIVEN			650		
COMPONENT, MOLE PCT								
METHANE.....	92.8	-----	96.3	-----		88.9	-----	
ETHANE.....	4.3	-----	0.3	-----		5.3	-----	
PROPANE.....	1.5	-----	0.1	-----		1.9	-----	
N-BUTANE.....	0.4	-----	0.0	-----		0.5	-----	
ISOBUTANE.....	0.1	-----	0.0	-----		0.3	-----	
N-PENTANE.....	0.1	-----	0.0	-----		0.2	-----	
ISOPENTANE.....	0.0	-----	0.0	-----		0.1	-----	
CYCLOPENTANE.....	0.0	-----	0.0	-----		0.1	-----	
HEXANES PLUS.....	0.1	-----	0.0	-----		0.2	-----	
NITROGEN.....	0.4	-----	0.1	-----		0.3	-----	
OXYGEN.....	0.0	-----	0.0	-----		0.1	-----	
ARGON.....	TRACE	-----	TRACE	-----		0.0	-----	
HYDROGEN.....	TRACE	-----	TRACE	-----		TRACE	-----	
HYDROGEN SULFIDE**.....	0.0	-----	0.0	-----		0.0	-----	
CARBON DIOXIDE.....	0.2	-----	3.3	-----		2.3	-----	
HELIUM.....	0.01	-----	TRACE	-----		TRACE	-----	
HEATING VALUE*.....	1082	-----	982	-----		1091	-----	
SPECIFIC GRAVITY.....	0.607		0.589			0.645		

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

INDEX 1  
SAMPLE 19813

STATE.....	ALASKA	
COUNTY.....	KENAI	
FIELD.....	COOK INLET	
LOCATION.....	A-1,2,3,4,6,7,8,9,11,12,&13 WE	
OWNER.....	PHILLIPS PETROLEUM CO.	
SAMPLED.....	94/08/10	
FORMATION.....	NOT GIVEN	
GEOLOGIC PROVINCE CODE...	820	
DEPTH, FEET.....	NOT GIVEN	
PRESSURE, PSIG.....	NOT GIVEN	
FLOW, MCFD.....	NOT GIVEN	
COMPONENT, MOLE PCT		
METHANE.....	99.1	-----
ETHANE.....	0.1	
PROPANE.....	0.1	-----
N-BUTANE.....	0.0	
ISOBUTANE.....	TRACE	-----
N-PENTANE.....	0.0	
ISOPENTANE.....	0.0	-----
CYCLOPENTANE.....	0.0	
HEXANES PLUS.....	0.0	-----
NITROGEN.....	0.7	
OXYGEN.....	0.0	-----
ARGON.....	0.0	
HYDROGEN.....	TRACE	-----
HYDROGEN SULFIDE.....	0.0	
CARBON DIOXIDE.....	0.1	-----
HELIUM.....	TRACE	
HEATING VALUE*.....	1007	-----
SPECIFIC GRAVITY.....	0.559	

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY





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